

# MANUFACTURERS' RECORD

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## Manufacturers' Record.

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RICHARD H. EDMONDS, President.  
THOMAS P. GRASTY, Vice-President.  
FRANK GOULD, Secretary.  
VICTOR H. POWER, Treasurer.

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RICHARD H. EDMONDS,  
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THOMAS P. GRASTY,  
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### POWER FOR THE SOUTH.

Wealth means now, as it has always meant, power. Decry "commercialism," as the ethical teacher may at times do, it is true today as it has been since the days of Job, when the doubling of his earthly possessions was credited as having been because of Divine favor, that the man of wealth, the State or country of wealth necessarily holds a more commanding position in all human affairs than the man or the country of lesser earthly possessions. The wrong use of wealth or the undue love of money may be the root of great evil, but constituted as the world is, and as it has always been so far as human records tell us, wealth means power and influence. If the South would increase its power in the business world or its influence in political activities it must bend its energies to the greatest development of its wealth-creating potentialities. Nature has crowded this section with infinite resources out of which to create wealth, while to the New England States she has given practically no natural resources. Whatever may have been the conditions in the past by which New England surpassed the development and wealth of the South, these conditions no longer exist. If we do not increase our material possessions more rapidly than less-favored sections it will be a proof beyond question that we have not the inherent strength of character, the energy and the wisdom which the people of other sections have. Henceforth to rail against the concentration of wealth and power in New York or the East or the Central West will be folly. We are standing now squarely on our feet, with all the problems which have harassed the South in the time past settled, with the abounding prosperity which higher-price cotton has brought to the agricultural interests, and not only out of debt, but with sufficient accumulation of capital and experience, if need be, to take care of ourselves and our own material upbuilding. If we measure up to our opportunity all that the South has accomplished in the last 20 years in industrial and agricultural advancement will be

but the merest fraction of what we shall do in the next five or ten years. If our newspapers from Maryland to Texas would for the next year or two cease political and sociological discussions and bend their energies to the fullest awakening of the whole people to the necessity of untiring energy and work; if our schools and colleges would give somewhat less attention to fine-spun theories and proclaim day in and out the dignity and power of work and the fact that only through work can this be realized by the development of the South's undeveloped resources; if our people of every class, rich and poor, learned and unlearned, want to see the South hold the position which is within its power to hold, as the dominant business section of this, the dominant nation of the world, they must prove by their works through the material upbuilding of the South the intensity of their desire. Let us turn from profitless political discussions; let us cease to bemoan, as so many Southern papers and Southern people do, the lack of power on the part of the South in the political world, and let us give our thought and energy to the improvement of agricultural conditions, to efforts to turn the tide of immigration to this section, to the utilization of our vast timber supply in the thousand and one woodworking interests for which it affords an opening and in which we now so largely depend upon other sections; let us utilize to the fullest the limitless stores of coal and ore and copper and granite and almost every known variety of minerals. In short, let us do as Job was commanded to do, gird up our loins and be men; let us, for the creation of industrial activities and development of wealth and power, take a fresh start and hustle as we have never done before; hustle for immigration, for agricultural and industrial advancement, for the material upbuilding of the entire South, that we may create in this section a wealth which shall rival that of the North and of the West. As we have the foundation on which to build, having natural resources greater than any other section on earth, we shall have none but ourselves to blame if we fall short.

### A NATIONAL SHEET-ANCHOR.

As an influence in national affairs the political South has been brought back to its position of 30 years ago. Whether that fact is to affect the country for permanent ill depends in some measure upon the South, but to a greater extent upon the national administration during the next four years. The very enormity of Mr. Roosevelt's electoral-college majority, though of less significance than his popular plurality, is a matter for sober consideration on the part of individuals who cannot be carried away by first-flush enthusiasm of an overwhelming victory. For, in these days of hysterics as the guide of action, overwhelming exaltation and recklessness of the future in times of prosperity, when thousands of men think they can

afford to neglect the suffrage, may be expected in times of depression to yield to equally reckless discontent, registering itself effectively at the polls. No party can prevent the lean kine from following the fat, and hence emotion in voting is as poor a dependence in good times as in bad.

The country is now prosperous. In spite of that prosperity, to which it has contributed very materially and in which it has its fair share, a sharply-defined section has practically failed as a section to follow the natural American instinct to support in a general election the party in power. At the same time the movement in the rest of the country, more notable, perhaps, because of votes that were not cast at all and of votes cast only in indirect opposition than for any other reason, has displayed certain signals which the lover of his country cannot slight.

The vote of November 8 was no political tidal wave. The rather must it be regarded as an ebb-tide which, under the influence of an extraordinary wind north by west, receded beyond the normal and left uncovered certain rank pools and shallows which must not be permitted to become the crest of any tide on its flow, with the wind from the east.

The prevention of such a catastrophe may depend upon the South.

Reports of the presidential vote in the several States have dealt principally with pluralities. There has been in the news furnished for general consumption a singular, if not suspicious, scarcity of details about the actual votes cast for even the leading candidates. Pluralities may be due as much to the failure of many men to vote at all as to the votes actually cast. Meager though they may be, the facts in such widely-separated States as New York, Maryland, Illinois and Iowa indicate that from 1,000,000 to 1,500,000 voters in the country outside the South did not go to the polls, the majority of them refusing to vote, because the party with which they had been aligned did not present a sufficiently positive program. That is, perhaps, the most significant feature of the so-called popular plurality of 2,000,000 votes.

In a certain sense that was of a negative character. More radical were the developments in such States as Massachusetts, where a Republican candidate for governor missed re-election largely because of his antagonism of attempts at aggravated State Socialism; as Rhode Island, where the close run made by the Democratic candidate for governor involved a decline in open Socialistic strength; as Colorado, where anarchy was a factor in successful opposition to reactionary conservatism, thinking itself above constitutional limitations, and in Pennsylvania, where revolutionary radicalism and reactionary conservatism were for the moment joined by a rope of sand, the situation in the last-named State, to the distress of the great mass of its citizenship, being complicated for the present as well as for

the future by notorious debauchery of the ballot.

Moreover, there were 1,000,000 votes divided between clear-cut Socialism and the equally revolutionary Populism, voicing an unrest not entirely unjustified, but yet offering remedies which point straight to the destruction of American institutions and American liberties.

The essence of these two menaces is embodied in the utterances of those who would already rally into cohesion the elements of opposition to the forces which dominated at the polls last week. From Massachusetts, where unvarnished Socialism seems to have been partly absorbed in practical politics against Governor Bates, comes the revived demand from a Republican source for national control of labor, akin to the measure long urged before Congress by a body which in its general gathering regularly votes down straw Socialistic propositions, while all the time working through divers channels for the Socialistic cause. In Massachusetts, too, the voice of George Fred Williams is raised to announce that "conditions absolutely demand a radical party in opposition to the Republican party;" that he believes "we shall gather in thousands of Republicans who realize that railroad monopoly is the key to the trust situation;" that he will insist upon the establishment of a parcels-post which involves "the defeat of the express-company trust," and that he will join Mr. Bryan in a program for public ownership of railroads, telegraphs and telephones, and "the development of a more radical system of government by extending the power of the people over their law-making and lawmakers through direct legislation." In Nebraska William J. Bryan is talking of radical remedies against "predatory wealth," "the plutocratic element of the country" and "the corrupting influence of commercialism," and is insisting that practically all the federal revenue is collected from taxes which "bear heaviest upon the poor and lightest upon the rich." He urges legislation in regard to hours of labor and arbitration, and a limitation of the authority of courts in the matter of injunction. He says that "instead of having the government controlled by corporations through officers chosen by the corporations, we must have a government of the people, by the people and for the people," and he would make "death to every private monopoly" the slogan of his party. Thomas E. Watson of Georgia announces by way of New York that he will be only too glad to co-operate on parallel lines with Mr. Bryan, Mr. Hearst or Mr. Williams to accomplish a purpose common to them all, and he proposes to return home to lead in a contest in nearly every Southern State "to be waged against corporations' tyranny."

Those parallel lines mentioned by Mr. Watson might, through untoward circumstances, converge to the injury of the country. The South, which knows Mr. Watson, is the least likely of all sec-

tions of the country to be the center of such a catastrophe, for the soil of the South, of all sections, is the least productive of the elements upon which radicalism thrives and the least hospitable to the seeds of revolution. By the same token the South may become the main reliance of conservatism of the country against the program of radicalism. It will not be found wanting in that respect if it be not assailed by policies which in the past have compelled it to devote all its energies to the maintenance of white civilization, and in logical sequence have debarred from influence in politics the men capable of bringing back the South to its position of progressive and potential activity in national affairs.

Not in undue apprehension, but in respect for the facts of human experience are these suggestions made. Fifty years ago there was an election in this country which gave as general satisfaction as the latest. In 1852 Franklin Pierce was elected President with 254 electoral votes, against 42 cast for his principal competitor. A third party polled about 150,000 popular votes in a total of about 3,000,000. At the time this victory was held to be overwhelming and to have settled one burning question. Four years later, though, the third party polled 1,300,000 popular votes in a total of about 4,000,000 and secured 114 electoral votes in a total of 296. Four years later that third party elected its President with 180 electoral votes in a total of 303 and with a popular plurality of nearly 500,000 votes in a total of about 4,600,000. Fundamentally, in spite of change of names, the successful party in 1904 approaches closer to the successful party of 1852 than to any other party in American history. There are thousands of men in the South anxious to support openly and to advocate freely many of the policies through which no sectional line was drawn at the South in the generation before the war. In that period the South was without sectionalism in its party action. Between 1836 and 1861 there were 24 candidacies for the presidency by 20 men. Of these but seven were from the South, and of these seven but two were elected. In that period 2048 electoral votes were cast, of which the South gave 328 to Southern candidates and 519 to Northern ones, and the North gave 258 to Southern candidates and 943 to Northern ones. Of the 21,300,000 popular votes the South cast 2,400,000 for Southerners and 3,600,000 for Northerners, and the North cast 3,000,000 for Southerners and 12,000,000 for Northerners, round numbers only being considered. Only Alabama, Arkansas, Missouri and Texas of the Southern States were represented regularly in the electoral colleges by Democrats; Maryland was Whig in the electoral college until 1852, and cast the eight electoral votes that fell to Fillmore in 1856, while in the split up of what passed for conservatism at that vital moment Virginia, Kentucky and Tennessee stood outside the Democratic columns in 1860. Study of State elections reveals a strikingly healthy division upon economic and governmental principles in the ante-bellum South even after the conflict turning upon slavery had gotten well under way.

Such facts prove that it is not first nature for the South to present a solid front in politics, and after the experience of the past 30 years the South should be freed from the pressure compelling it to manifest what has been forcibly made its second nature. Such relief would permit the real men of affairs in the South to dominate its politi-

cal action, to divide upon questions to the discussion of which the South is able to make valuable contributions, questions in which the South was the leader in former times. Continued pressure might find them, in an acute stage of national life, so occupied in self-preservation as to be barred from becoming the determining element for national safety.

Active participation in politics by such men will leaven the whole political life of the South, dividing it, if you please, in party action, but dividing it upon such broad, safe and practical lines that the rest of the country will be likewise divided, though not to the extent of permitting passing dangerous humors to reach proportions capable of enforcing national action, and the South be permitted to participate in national politics upon a sounder basis than that of a campaign bargain or a political gold-brick.

For the furtherance of such a desirable end, for the return of the South to its proper place as a national factor, but one policy is necessary, the policy of recognition by the country as a whole that Southern States in their individual capacity have sought honestly and patriotically, however imperfectly from the standpoint of the doctrinaire, to give constitutional standing to the reversal by public sentiment of grafts upon the Constitution of the United States placed there by methods repugnant to the spirit of the Constitution.

The administration for the next four years has unparalleled opportunity to emphasize that, through discouragement of the suggestions of sentimentalism, political, philanthropic or educational, and thereby to win the enduring admiration and gratitude of his countrymen of all classes and of all parties.

#### RAILROAD BUSINESS IN THE SOUTH.

The prosperity of railroads in Alabama is shown by the figures in an advanced statement from the annual report of the Alabama Railroad Commission covering the fiscal year ended June 30 last. The gross earnings amounted to \$28,222,829.72, an increase of \$607,261.73 more than the preceding year; the net earnings were \$6,966,676.13, an increase of \$134,420.22. There was quite a large rise in the operating expenses, the total of which was \$21,379,412.96 and the increase \$533,886.36. These earnings cover all the lines within the State, and track amounting to 5672.14 miles. The track built during the year amounted to 145.21 miles.

In South Carolina a synopsis issued from the office of the railroad commission, also for the fiscal year ended June 30 last, shows a total income of \$13,871,709.87, an increase of \$754,528.71 as compared with the previous year. The net income was \$4,108,080.80, a decrease of \$284,057.09. It must be borne in mind, however, that this decrease in net earnings is due to the large increase in general expenses, amounting to \$978,641.13 more than the previous fiscal year, and a considerable proportion of which was a temporary increase, although taxes were nearly \$60,000 more than the year ended June 30, 1903.

The showing made by the roads in these two States is indicative as well as characteristic of the Southern States generally, for everywhere throughout the South the railroad business has maintained its successful and progressive record, notwithstanding the depression experienced in some other parts of the country during the last year or so. Moreover, the outlook for the future is better than ever. The business of the

existing lines continues large, and extensions are projected which will add still further to the revenue of the corporations. Besides, many new companies have been incorporated and are now preparing to carry out their projects of further railroad development.

**Advertisements of Southern localities offering special advantages for the location of manufacturing enterprises will be found on pages 56 and 57.**

#### WIDE FOREIGN CIRCULATION.

In one mail last week there came to the Manufacturers' Record several letters indicating its wide circulation in foreign lands. One was from Ferrero Bucarest of Bucarest, Roumania, forwarding his subscription to the Manufacturers' Record and setting forth his desire to represent on commission American manufacturers, and expressing a willingness to warehouse goods and to anticipate custom dues and freights. From Manchester, England, came a subscription from the Chamber of Commerce and from Mr. Marshall Stevens of the same city, and A. Tchankerten of Constantinople wrote:

I am ready to count myself among the number of your subscribers, but I should like to know if you accept postal order for the amount of yearly subscriptions. A draft on Baltimore, and even on the United States of America, is rarely found here. I am much interested in introducing American articles in our country, but on agency terms only. Can you be of some service to me in recommending me to some manufacturers of rubber goods and cotton goods? Kindly tell me what are the American goods that are most suitable for export, so that if there is any except machinery that interests our market I may take up that line.

W. G. Harry of Georgetown, British Guiana, writes:

I have been a reader of the Manufacturers' Record ever since I came here from New York some two years ago. At present I am interested in rice-milling machinery, and have been engaged in fitting up and operating rice mills. There are a number of local firms who handle American goods very largely.

Dr. Basile Agapon of Messene, Greece, writes:

There are many towns in this country which are in need of a lighting system and a supply of water. My purpose is to get authority as soon as possible from some contracting company, so that I may enter into negotiations with those places at once. I need to know the cost of production of a certain candle-power for a definite number of hours; for example, one to five hours. It may be suggested that this region produces great quantities of currants, figs, olive oil and wine, so that the company which would accept the contract would be able to do a profitable side business, for the products I have mentioned sell here at an incredibly low price. I am of the opinion that the Orient can become a lucrative outlet for the industrial products of America, though I believe the market will be controlled by Germany in the very near future. There are many cities in the Orient enjoying an active commerce. These are nearly all populated by Greeks, and I feel that these Greeks would be able to open a way for American industries in Asia Minor, the Balkans, Egypt, etc. For my part, I am ready, to this end, to travel in Greece and Asia Minor, but principally in Bulgaria, to advertise and introduce American goods. The last-named country, Bulgaria, is yet virgin and unexploited, and will fall quickly into the hands of the traders from Vienna. I am thoroughly acquainted with that country, even to the smaller villages, and speak its tongue. The point is now to learn how we could best labor in the above direction. I am prepared to bear suggestions from American manufacturers, or even to give my own if they should so prefer, and hope to have a decisive response from the Manufacturers' Record on this important matter. Here is my advice: At the beginning we could have at Athens an office in charge of an intelligent person to direct affairs. He would work to advertise and introduce his commodities through the press, and by traveling agents, who would be content

with so much per cent. At Athens we would have a line of samples of each article, for which I would give a specific guarantee in cash.

Jens Thorne, No. 3 Ellisenbergveien, Christiania, Norway, writes:

I beg to thank you very much for your kind letter of the 7th inst. with enclosed list of addresses in which I am most interested, especially in cottonseed oil, rice and syrup. There is much to do here in corn, of which Norway is now importing only about 20,000 tons. I would be much obliged if you could induce one of your friends to write me who would be willing to sell in smaller quantities, from 400 to 4000 tons, at lowest day prices. He could take the biggest part of the business, which the Hamburg merchants now have. In rice it is the same; the Bremen merchants have the whole business. Though the Hamburg merchants have the business in corn, we are, of course, getting a great deal direct from America. But then more merchants here must get together to be able to buy a whole cargo. You understand that this involves much trouble, and for that reason I think an American house could gain the greatest part of our corn business by selling in smaller quantities, as the Hamburg merchants are doing. The same may be said about the other articles. Americans must sell direct in smaller quantities. You must excuse me when I ask you to put me in communication with a special firm. I must thank you, of course, very much for the different addresses. But it will be hardly practical, by writing from time to time to those on the list, to find a firm who is willing to take up the Scandinavian business. It takes at least four weeks for every letter, and to write all at once would not do, as you will understand. I suppose your time is very much occupied, and you cannot waste it on me. But if you would have the kindness to put me in connection with a mercantile firm who could take up the correspondence with me I will be most obliged. For any of your friends in the different lines I will choose agents, and, of course, the best ones were Scandinavian. After this date I will work only for American imports. You can consider me as an American commercial agent, and I want to help your friends in the best way. But as our market is limited, I should prefer that they write me at your instigation, as I can, of course, in that way work more satisfactorily, not having to do with too many firms. If you think it of interest to you, I will send you our import statistics. You then can get your friends to write me.

Urbano Gomez & Co., P. O. Box No. 507, Havana, Cuba, write:

In our previous letter we stated that our main interest is to obtain exclusive agencies for a few American manufacturers of high standing who may be interested in gaining the Cuban market, and who would be willing to back with commissions to us our efforts to assure them a substantial market for their goods. The best means to obtain such advantage is in traveling over the island so as to make connection with travelers and in advertising. The largest trade of our country is in the hands of French, German, English and Spanish commission agents, who spend money in traveling and in advertising. Experience has proved that results are positively good, and we can't see why American manufacturers should not adopt such a policy, for we notice that their trade has not improved in our market, notwithstanding reciprocity between Cuba and the United States. Our honest opinion is that the American trade will not extend to Cuba if the European policy of doing business is not adopted.

These letters, all received, as stated, in one mail, illustrate the wide range of foreign correspondence and subscriptions of the Manufacturers' Record.

#### BIRMINGHAM STEEL RAILS.

The final demonstration of the success of steel-rail making at Birmingham by the Tennessee Coal, Iron & Railroad Co. will mark one of the most important periods in the history of the iron development of the South. With the success of this undertaking as a commercially profitable business firmly established, and the acceptance by leading railroads of the country of the basic-steel rail made at Birmingham, the South begins a period in which it will be destined to fulfill the prediction of the late Abram S. Hewitt, who in 1900, writing to the Manufacturers' Record, said:



The two great centers for dominating the iron and steel of the world are to be the Lake Superior region, with its Bessemer ores, on one side, and Alabama, with its basic ores, on the other. The growth of the basic-steel industry, now that it has been fairly started in the South, ought to be very rapid. That section, with its abundant stores of ore and coal and limestone in such close proximity as is found in Alabama, bids fair within the next quarter of a century to dominate the basic-steel industry of the world.

Commenting on the success of rail-making in Alabama, and quoting a list of a large number of companies using these rails, the Wall Street Journal says:

This list by no means includes all of the roads which are now using rails from the Southern mills, but it shows that some of the best systems in the country are testing the durability of the Southern rail side by side with the Bessemer rail from the mills of the Steel Corporation and other Northern rail-makers.

Those who are best acquainted with the kind of rails now being made in the Alabama district are confident that the time is not far removed when the Steel Corporation and other important railmakers will either have a rail mill using Southern ores or will establish subsidiary plants of their own in the Southern field.

Already the Steel Corporation has looked over the field, both in connection with the reported attempts to combine the three big plants now in the Alabama district, which for the time have been abandoned, and in the contemplated establishment of a big plant of its own. It has expended in its investigation of the Southern field more than \$100,000, and has accurate data pertaining to the supplies of raw materials in the district.

Through important interests associated with it the corporation is said to control at this time valuable ore and coal lands, and will be prepared to enter the field at the proper time with an adequate supply of the essential ore and coal deposits.

#### TEXAS WANTS THE FOREIGN SPINNERS.

The Dallas Commercial Club, through Mr. J. H. Connell, chairman of the committee of invitation, has forwarded through the Manufacturers' Record the following to English and continental cotton spinners:

The business interests of Dallas, Texas, note with pleasure the contemplated visit of foreign spinners to the cotton fields of the United States, and by especial authority and request we desire to extend to you a most cordial invitation to come directly to Texas on reaching our shores.

From this leading cotton-growing region of the world you can best study the new problems environing the production of cotton, as well as investigate fully and at your leisure the soils, labor and climatic conditions from the Rio Grande to the Potomac river. Investors in cotton spinning the world over are doubly interested in Texas cotton fields (producing 2,500,000 to 3,000,000 bales a year), not only as the greatest single source of supply of good upland staple, but because here the boll-weevil problem has been met and solved, as is proven by our crop after 10 years of battle. We will be proud to show you the fields once ravaged by the pest now yielding cotton as before.

Around Dallas lie the largest cotton-producing counties in the world, and further west extends the largest cotton-producing belts of soil anywhere on earth. To see these things is to realize them and to believe them. To look over these counties and, further, over the wide areas of lands west of us as rich, with yet a sparse population, but reached in a few hours by many of the 80 trains radiating out of Dallas every 24 hours, suggests immigration for the cultivation of these lands and the growth of cotton on a magnificent scale practicable in no other State or country in the world.

Another factor that will attract your attention is that the business interests of Dallas and the State as a whole protect and promote the cotton interest. We therefore all the more appreciate the importance of your visiting us first, and after full and free investigation of our resources, developed and undeveloped, with their opportunities, present and future, in your line, we appreciate the necessity of your visiting other cotton-growing areas and centers and inspecting them thoroughly.

Please note that we organized a Texas Cotton Interstate Association, with headquarters in this city, which has worked actively and hard in co-operation with the commercial interests of the State in securing the

valuable and most helpful assistance of the Department of Agriculture of the United States government in their recent fight for the protection of the great staple crop of the South. This organization will join with the business interests of the city in extending a cordial welcome when you enter our State, and provide the necessary means for a practical inspection and investigation by such practical men as yourselves of this, the "Dominion of King Cotton," and the opportunities for practical investors in their respective lines if they should wish to become identified with us.

We will be greatly pleased also to escort you gentlemen to other fields and their centers in our Southern country, where you will be most welcome.

In a personal letter to the Manufacturers' Record Mr. Connell says that Texas business interests connected with cotton are keenly alive to the good that will flow for years to come from a visit of the foreign spinners to Southern cotton fields, and believe that much can be done thereby to disabuse their minds of the false notion that cotton production in the South has reached its maximum. He suggests that if time permits the Dallas Commercial Club can readily induce other cotton centers in the Southwest to present similar invitations, and he adds:

We appreciate the patriotic motives which have inspired you to take the lead in this vast enterprise, so fruitful of good to the South.

These communications are but additional to the many evidences of the widespread interest in the South in the proposed visit of foreign spinners and the general desire there among progressive men to give them a hearty welcome and to enable them to turn their visit to practical account. They recall the activity of the Progressive Union and the Cotton Exchange of New Orleans in the same direction, to which reference was made last week in the Picayune by Mr. J. C. Clair, industrial commissioner of the Illinois Central Railroad, who is anxious that the gathering take place at New Orleans. Mr. Clair mentioned also the resolution which was adopted at a meeting at St. Louis of land and immigration agents of railroads in the South favoring the project, and he said that Mississippi especially, as the greatest producer of cotton next to Texas, would have deep interest. And so the story runs for all the cotton belt. Presently the English spinners who have been hesitating about making the desirable trip, through deference to those who they think should lead in inviting them, may conclude to wait no longer and to accept what is really an invitation representing the whole South.

Regarding the criticism in these columns of an article on cotton in the World's Work, the Manufacturers' Record is informed that in the concluding paragraph of the original manuscript, which was omitted by the publishers of the World's Work, the author would have indicated his indebtedness to the Manufacturers' Record for some of the facts included; that the author was reared on a cotton farm, and in the preparation of his article conferred with growers, dealers, manufacturers and exporters, collecting a mass of material, and that for such as he obtained from the Manufacturers' Record he intended to give full credit.

Referring to the letters by Mr. Albert Phenix now being published in the Manufacturers' Record, and dealing with phases of New England industrial development as an incentive to the South, a New England correspondent writes:

The Phenix letters are attracting much attention up this way, and seem to be placing a new value on cotton-mill property in both sections.

## Reasons for New England's Industrial Growth—V.\*

[Special Correspondence Manufacturers' Record.]

Boston, Mass., November 15.

In going up and down this New England country a man from the South will find himself wondering whether in all time there will be seen in his section such an amazing development in every industrial line as is spread out here on all sides, and what, should that time come, will New England be doing in that day. I am convinced that this is a question that cannot be settled offhand, for there are varying views and opposing arguments as to the permanency of New England's supremacy in many lines for ages to come; but I do not believe it is wholly idle speculation to consider the matter at all points, even to the extreme of those who see, on the one hand, an ultimate future for New England as a country chiefly of small factories, trading centers and summer homes, or, on the other, of those who believe New England will forever maintain the prestige enjoyed today as the land of universal mechanical instinct and knowledge and of shrewdness, energy and efficiency without a parallel in the utilization of forces and conditions at hand. I have heard in all seriousness, by men of the greatest prominence in the industrial life of the section, a declaration that old conditions do not subsist; that the days of inherited genius are drawing to a close; that the grandsons or even sons of those in the harness today do not and cannot match up with the sons, grandsons and great-grandsons of the founders of industrial New England.

"New England is getting conservative—almost as much so as Old England," said one very distinguished manufacturer to me.

"We advertise in Western papers—Chicago, Detroit, Milwaukee—when we want skilled mechanics," said a large machinery maker, one of whose branches is the building of engines.

Conditions at Fall River are inviting much discussion, and students of economics are disposed to regard the situation as one of too much significance to be lightly passed by. Is it a symptom, instead of a mere incident? Is a question getting to be asked on many hands. Unquestionably, here is conservatism entrenched—here, in this early stronghold of cotton-spinning, until recently the very center of the industry of the country, the largest producer on this side of the world. In the poverty-compelling struggle, now in its seventeenth week, between the employers and the hands, one of the bones of contention is opposition by the weavers to having 12 looms given to each man instead of eight, the increased number being made possible by the introduction of the warp stop-motion and the longer bobbin. Down South, where the wonderful Northrop loom has been so readily and generally adopted, good weavers are running from 20 to 32 looms, and can earn more money at half the price per cut paid for working at the old looms. This Fall River strike is exceedingly likely to make important history. I know there is no disposition in the South to rejoice over misfortune to New England or to any part of her industrial interests, and there are those who believe that with the present comparative depletion of merchants' stocks there must soon come a demand for cotton goods that will tax the capacity of all the mills of the country North and South, and that there will be profit in the operation of any of the mills. But in studying conditions the bald fact is the only thing of value, and it is not concealed throughout New England even that the Fall River situation is one of grave seriousness. If the enormous in-

\*This series of articles bearing upon New England's industry is intended as an inspiration for the South.

vestment in mills which have been idle 16 weeks—some \$23,000,000—is to be deprived of its dividend-earning capacity even for any great temporary length, the individual loss to the stockholders, many of whom are women, widows and heirs without other income, will be irreparable, and the loss of business and prestige to the mills may not be recovered. How to meet the situation except by the drastic but purely palliative method of wage-reduction is a question requiring the greatest managerial ability. It is declared, and the declaration bears the truth on its face, that the Fall River mills cannot endure the expense of re-equipment. There can be no assessment of stockholders for this purpose, there is no available surplus, and the only way it could be done is by making the money out of the operation of the mills, and that is impossible, because the mills under present conditions can only be run at a loss or with a small profit. Fighting against fate almost seems the stern condition at Fall River today, and there are those who conceive that a permanent settlement of conditions is impossible outside of reorganization and re-equipment.

It would seem to be inevitable that New England can only maintain its supremacy by bold and aggressive leadership, and where that is lacking a fatal defect exists. In how many cities, institutions or lines there has been a failure to keep abreast of the times I do not know; but that such cases must ultimately manifest themselves there can be no doubt, just as conspicuous instances of enterprise evidence themselves without fail. A case in point is New Bedford, once the center of the greatest whaling trade in the world. Sometimes as much as \$10,000,000 a year was received for New Bedford's whaling catch, and her fleet at one time numbered some 400 ships. In those days the New Bedford people frowned down on cotton manufacturing and a factory population, just as an occasional misguided community in the South is doing today. It was long after Fall River had built up a flourishing cotton industry before New Bedford capitalists would listen to any talk about cotton mills for their city. Not till 1846 was there anything attempted in that line, and even after the famous and still leading Wamsutta mills were started there was no great growth in cotton manufacturing until the war and the introduction of kerosene wrought havoc with the whaling industry and capital was forced into other channels. Then began in earnest the development of the cotton industry there, and enterprise and push have marked every feature of the business since. There are now 42 cotton mills in New Bedford, with a capital of more than \$20,000,000. New Bedford mills have about 1,700,000 spindles—second in number to Fall River alone—have 32,562 looms, employ 17,500 hands and use 225,000 bales of cotton a year. Two new mills have recently been built and another one, with 60,000 spindles, is under way. These mills paid last year dividends of all the way from 2 to 16 per cent, and almost every one of them is equipped with the very latest and best machinery—the Northrop loom, the Jacquard loom, etc.—so that New Bedford ranks first as a producer of fine and fancy cotton goods in this country, and even stressful conditions produce no serious disturbance. With 75,000 population at best there are some \$23,000,000 in the savings banks, which is \$3,000,000 more than Fall River savings banks had before the strike, with a claimed population of 114,000.

I fancy New Bedford is as fine an example as may be found of what has been

enthusiastically acclaimed as the marvelous adaptability of New England men to changed conditions. Getting their wealth entirely out of the water—harpooning it and dragging it from the depths of the Atlantic and Pacific, as has been said—they not only fell in line elsewhere when these operations ceased to be profitable, but they forged to the front and before long assumed a position of leadership. Just how much of that same spirit and ability prevails throughout New England is the question at issue. That it very widely abounds there is ample proof in almost every community. That it is not universal, however, there are numerous evidences at hand. I know of several very large institutions which are now most skillfully and successfully managed by founders and descendants of founders, but who have themselves grown old, and when they have passed away, as they soon must, there is no one in sight on whom their mantle can fall. It is out of the question that there is to be a disintegration or a general decadence of industrial New England in the near future, if even in 1000 years; but that there is a limit to adaptability would seem to be axiomatic, and if the South is prepared, through technical training, energy and vim, to take advantage of the opportunities, it is evident that in some of the changes which conditions will force there may be an increasing number of developments there on lines parallel with the investment by New England cotton-mill men in mills in the South. The South will develop through the energies of her own people, and the day has gone by when it was believed to be desirable to pick any kind of a plant up bodily and move it from the North to the South. In the growth of this country and the spread of civilization throughout the world there will doubtless be room for many years to come for the operation, with ability, of every kind of industry the country contains. And, anyhow, the South is not in the attitude of one in at a pie-cutting, where there are only so many pieces, and where what one gets another must lose. I have encountered on occasion some jealousy of the South and a disposition to regard the work of the Manufacturers' Record and my trip up here as to an extent a poaching on New England's preserves. If I understand the matter at all rightly, there is no expectation or desire to undermine any part of New England's industrial institutions. If, however, by the use of the best improved machinery, methods and management Southern cotton mills may prosper where a Northern mill not so conditioned does not, there can be no just complaint against the South; and if the rapidly-developing and richly-resourceful South offers many and great opportunities for the investment of capital, it would seem to me an attractive proposition to any man, be he in New England or wholly of the South, and that the benefits would be not alone to the South, but to the entire world.

New England has its population of skilled labor and its superintendents and overseers to teach the raw recruits, and it also possesses a vast advantage in the momentum of an early start. Lacking in all raw materials, however, as well as in fuel, it is evident that she must continue to drift toward those industries which require the maximum amount of what she does not possess, to wit, education and skill, and the minimum amount of raw material, which has to be shipped in.

How soon and in how many lines outside of cotton manufacture the South may follow in New England's wake is as interesting as it is difficult to foreshadow. Here in New England every village is a factory town. Even Cambridge, chiefly famed as the seat of Harvard, has a great factory output, and all over New England

you will run across some industry that is the greatest of its kind in the New World, if not on the globe. Thus, Westfield, a little town out in Western Massachusetts, makes whips, and nothing but whips, and turns out about 90 per cent. of all the whips made in the United States. South Framingham is practically sustained by the Dennison Tag Factory, whose products go all over the world. At Amesbury the whole town is devoted to carriage-making, and has been for 100 years, and some of the finest carriages in the United States are produced there. Holyoke, with its 30,000 or more people, is wholly devoted to paper-making, and here is manufactured every grade of paper from the finest note to the coarsest wrapping. Shirley has the largest suspender manufactory in the country, which grew from nothing to a plant employing 300 or 400 hands. Leominster is the center of the shell-goods trade of the United States, the whole town being devoted to the manufacture of fine combs and toilet articles. These are mentioned simply as samples. The whole list of manufactured articles, from large machines to the finest tools and fancy articles, jewelry, silverware and everything that can be worn, is practically covered by New England's industries, and a list of the cities and towns in which factories are located would almost be a reproduction of the gazetteer. In a vast number of these cases nothing but skill and the ability to market the wares stands in the way of a duplication of present successes anywhere in the country, and in some lines the South has vastly superior natural advantages. However, "the man behind the gun" is the telling factor always, otherwise it would be as different to account for the presence here of some industries as it is for the fact that much of the cottonseed-oil machinery used in the South is made in Dayton, Ohio.

How rapidly the South will get into the manufacture of the machines and tools she so largely uses is, however, a mooted question, and it requires a broad faith to foresee the time when such an institution as the Draper Company of Hopedale will ornament the South. It has taken 88 years and several generations to produce this plant, which now covers 27 acres of floor space and has assets valued at \$10,000,000. There is no possible way to duplicate offhand a success like this any more than there is to duplicate a sequoia giant. It is an evolution, a growth, and like most every other New England manufactory of cotton-mill machinery, it represents an inventive ancestry. The very genius of New England enterprise and ingenuity is typified in this house, which started without any capital and has built up the present great institution solely on the profits of its operation, not a dollar of outside capital having ever been invested in it. All of this great property has been built up on the cotton business, and furnishes another illustration of the fact that cotton manufacture and its allied interests have been at the foundation of a large part of the industrial development of New England. And "protection," of the most direct and discriminating sort, has been the keynote of the firm's success, for from the beginning it has always dealt in patented articles. Everything turned out today—and the average output for 10 years has been \$4,000,000 a year—either is or has been patented. Although since acquiring the rights of the Northrop loom the business of the house has more than doubled, it has been active and prosperous from the foundation and has left a deep impress on the cotton manufacturing of the world. Ira Draper, grandfather of Gen. Wm. F. Draper and great-grandfather of George Otis Draper, who, though a farmer, living at Dedham, was so much of an inventive genius that he was men-

tioned as a possibility for commissioner of patents under President Adams, invented a temple which was patented and put on the market in 1816, which was the beginning of the business, and practically all the temples in use in the country today are the Draper temple with subsequent Draper improvements. Starting on looms, the business was for a time diverted to the manufacture of spindles and rings. The Drapers introduced the form of ring spindle everybody uses now. They have manufactured 17,000,000 of them, and are making three-quarters of all that are bought today. They and their licensees have made all the spinning-frame spindles in this country for 30 years, the output totaling 23,000,000, the bulk of which were made by the Drapers themselves. They have also been pre-eminent in the manufacture of twistors, warpers and spoolers, and have made more than 11,000,000 spinning-frame separators.

Invention is the life of the institution. Through successive generations following Ira not only have the Drapers been busy with inventions themselves, but they have an army of inventors, largely their own men, working in their behalf. George Draper, son of Ira, took out 40 patents; Gen. Wm. F., his nephew, took out 80, and already George Otis Draper, yet a young man, has 100 patents to his credit. Altogether the firm takes out about 100 patents a year, and a department of litigation, to fight infringements, is one of the best organized and busiest departments of the place. They are having lawsuits all the time, and they seldom lose a case.

The Northrop loom was first conceived by a young Englishman named Northrop, who entered the employ of the Drapers in 1881. He first began to work out the idea of an automatic change of bobbins in 1889, and by 1895 the Drapers, having added inventions of their own, were ready to place the Northrop loom on the market. It is hardly too much to say that this labor-saving device has worked a revolution in cotton-weaving. Since 1895 more than 105,000 Northrop looms have been sold, and it is the South's pride to state that two-thirds of them have been placed in the South, South Carolina alone having taken 40,000. They are being shipped today at the rate of 1500 a month. The largest shipment during any one year was 19,000. Although the Northrop loom is a perfect machine today and is applicable to any ordinary weaving—even a Jacquard single-shuttle loom will take the Northrop attachment—the company is constantly at work devising improvements. For instance, while in practice today big mills are giving 20 looms to a single weaver, and even 30 or more have been run by one man, a hopper is now being experimented with which justifies the expectation that ultimately one man may be able to take care of as many as 50 looms, which would give better wages at a fraction of the price per cut he now gets.

Hopedale is exclusively a Draper town, a few minutes' trolley ride from the railroad town of Milford, and it possesses features of much interest in connection with a study of the conditions of New England's labor, about which I expect to have something to say later on. For the present, suffice it to say that it is one of the handsomest villages to be found anywhere. It was started as a community settlement in the days of the Brook Farm and other picturesque experiments along the socialistic line. Having proved a financial failure, in common with all similar attempts, the property, consisting of 600 acres, was bought by E. D. Draper, son of Ira, and E. D. and George formed a partnership and carried on the cotton machinery business started by their father. The Drapers own all the village, and have

built fine houses for their help and beautifully adorned the grounds.

The factory is the most orderly and systematically-conducted institution I have seen for a long time. It is organized into departments, each complete and distinct. With one or two minor exceptions, everything entering into the make-up of every product of the plant is manufactured on the grounds. An immense foundry, altogether the largest in New England, having five cupolas and with six acres of floor space, furnishes metal of a special texture for the castings. The molding rooms have numerous automatic and labor-saving devices, mostly inventions by the Drapers, and from the casting to the assembly room there is perfection of detail in machinery, method and process. For example, the blacksmith shop is so well ventilated that no partition shuts it off, for it is as free from smoke as any corner of the shops. There are acres of machine tools for bending, stamping, boring and turning, extending from the largest to the smallest and most delicate, on which the work ranges, from shaping heavy bars of iron to cutting threads on diminutive screws. In this latter branch a considerable business is done for outsiders—scissors makers, gunmakers and others who want the best article to be had.

The shops have a capacity for 5000 hands, having been built ahead of present needs. As many as 3000 hands have been employed at one time, although at the present time 1600 is the number on the payroll. The Drapers maintain an open shop, and have never had any labor disturbance that caused a shutdown. It is the policy of the firm to maintain friendly relations with the employees, which they succeed in doing. They encourage their men to consult them whenever they have anything to say, and a grievance, if presented, is equitably disposed of. They do not recognize the outside agitator, however, nor labor organizations as such, and not being in a city, both they and their employees are contented and free from troubles originating in labor agitators' whims.

ALBERT PHENIX.

### SEIZING ONE'S CHANCES.

#### Suggestion for Southerners With Surplus Cash.

Referring to industrial opportunities in the South, Mr. Ben P. Hunt, secretary of the Chamber of Commerce of Huntsville, Ala., writes to the Manufacturers' Record as follows:

"The South has now surplus millions. Why don't her people invest in the various factories using timber and make at least her own buggies, wagons, farming implements and furniture? No; we sell the raw material for a song to the North, where it is manufactured into these various articles of necessity and then buy them, paying freight both ways and good profits to all intermediate handlers. Why don't the South have her own life and fire insurance companies? No; we neglect these opportunities and then 'cuss' and damn the North for its prosperity, and conclude the country is going to the devil because we can't elect a Democratic president. There were, I think, half a dozen causes for Parker's defeat, which, when aggregated, made a landslide, but the tariff, as you say, was perhaps the controlling factor. The South has marvelous sources of wealth which we fail to develop and utilize, but which would make our people independently rich. The people of the South who have surplus money are woefully lacking in that enterprise which would put their money into manufacturing instead of into mortgages and bonds."

This is the view of the situation from one who has for years been active for Southern development.



## STREET PAVING AND HAULING PROBLEMS.

By CHARLES A. LIEB of New York.

[Written for the Manufacturers' Record.]

The editorial in the Manufacturers' Record of November 10 on "Noises of City Life" and the injury to health from the ceaseless rattle of horses and wagons over bad pavements, as well as the noises of street-car traffic, necessarily set many people to thinking very seriously on that subject; but connected with the subject of better paving I have been making some little study along that line as it relates specifically to the cost of drayage in New York city. What is true of New York is equally true, to a greater or less extent, of every other city, and so a study of the New York situation is of equal interest, as it relates to every other city in America. My investigation of the subject has in part been called forth through many years' connection with electric street-railway matters, and more recently through the investigation of the possibilities of automobiles in street transportation work.

At present the horse is the mover of practically all freight in our city streets, but if our streets were paved with rubber the transportation problem in city traffic would be solved by the utilization of automobiles. The automobile has been a gigantic experiment which has now reached a stage where experimenting ceases and commercial operation is not only practical, but positively assured. The unsanitary, yes, even filthy, horse is as appropriate in our crowded business streets as a Newfoundland dog would be in a Harlem flat, but we are enduring both. It is safe to say that more money and gray matter have been devoted by the best engineering talent in the world in endeavoring to solve the problem of automobile transportation than any other known innovation, and although it may be moving slowly, it is self-evident to all observing persons on both sides of the Atlantic that substantial progress is being made. The real hindrance to its more speedy and universal adoption is not because of the mechanical defects of the automobile itself, but rather because of pavement conditions, which in the past have all been designed and laid with the view to meeting the requirements solely of the horse-drawn vehicle. It is probably not more than 18 years ago since the first block of asphalt was laid in New York on Fifth avenue between 25th and 26th streets, and many of our citizens may recall making a special trip to inspect this curiosity. The consensus of opinion at that time was that its cost would be absolutely prohibitive for general use, whereas today we have over 1000 miles of streets asphalted on Manhattan island alone. In addition to this, many miles of the old streets are now being asphalted, and the municipality, it is understood, has decided to pursue the policy that all new streets shall be paved with asphalt. Thus the problem is being partly solved in New York.

If only a trace of the effort and ingenuity displayed in the effort to perfect the automobile were devoted to the designing and perfecting of an automobile pavement the problem would be consummated much earlier. However, since the streets are the property of the cities, we must, as a matter of course, be disappointed if we hope for prompt relief from this source, but by united and constant perseverance municipal authorities everywhere will ultimately be forced to provide the pavement that will be most suitable for cheap, quick and safe transportation in the thoroughfares over which the commerce of this great city must be carried by vehicles. In other words, I maintain that it is the city's first duty to provide the very best facilities

to our merchants and manufacturers to transact their business in this city by furnishing automobile pavements which will permit of the transportation of merchandise at the least cost, leaving the pleasure rider, for the present, at least, to furnish his own good road by paying for pneumatic tires; but it is the duty of the city officials to furnish the best possible roads for the transportation of our merchandise if we are to maintain our position as the warehouse of America, and perhaps, ere many years, of the world. And what is so sorely needed in New York to lessen the burden of drayage of freight is equally as much needed everywhere else. It is a well-known fact that at present it costs more to deliver a barrel of flour from a merchant's warehouse within a mile of the New York pier of the Boston boat than the steamboat company charges for carrying the same, say 200 miles by boat and 50 miles additional by rail. The average cost of hauling coal in this city, from the best information obtainable, is about 30 cents per ton for each mile of city streets traversed, and yet people make a great fight on railroad freight charges even when rates are one-half cent per ton per mile. Good pavements and the automobile should reduce this cost in street hauling more than 50 per cent.

So long as street-car tracks remain on the surface of our streets, so long will it be impossible to maintain good street pavements, unless, of course, one does not consider the cost of repaving and maintaining, which cannot be ignored for reasons that are obvious.

As an engineering proposition a composite wearing surface consisting of steel and some other material of less wearing and climatic resistance will not wear evenly, the material of less resistance always suffering most where it is in close contact with the steel. Thus pavements are always wearing out, not only by reason of the street-car track, but also of the many thousand iron manhole covers over sewers, water, gas, electric-light, telephone and other manholes, which have not only multiplied by the thousand lately, but what, perhaps, is quite as discouraging to the student of good pavements, is the fact that these aggravating noise-makers are daily increasing in size as well as in number, from the old 18-inch cover to the present subway cover, which is 36 inches in diameter. The proper place for these manholes should be under the sidewalk or vaults of buildings, and of such design that men could work in them without obstructing the surface of the street or sidewalk for weeks at a time, a sight only too familiar to the observant citizen.

There should be at least one central thoroughfare in New York which should be free of car tracks and cars, paved with a proper auto pavement and devoted entirely to automobile traffic, and it must be obvious that if the street were paved with rubber practically the whole automobile problem would be solved.

The writer has suggested as an experiment that West 72d street from Central Park to Riverside Park be paved with rubber tiling, the rubber to have mixed with it a Mexican grass or a similar fiber which would prevent slipping in rainy weather, and at the same time add to the wearing qualities of the pavement and cheapen its cost. I think it is safe to assume that the value of real estate on which is, perhaps, the best residence street we have in this city has depreciated very much simply because of the pavement on that street, which is macadam. Although

sprinkling carts are kept going all the time, I am informed by friends living on that street that it is impossible for the ladies to keep their households in order because of the dust created by the traffic from this pavement. Moreover, there is the much more serious question of the health of the residents likewise involved in dusty streets.

The cost of rubber pavement, although it may seem high at first blush, would not only make an ideal pavement for the traffic in this street, but its cost would be a very small proportion of the increase which real estate would enjoy by virtue of the removal of the present nuisance both to health and property, to say nothing of the general benefit to the city. Experiments for the past 10 years in all the various methods of automobile propulsion indicate that all mechanical and engineering difficulties have been surmounted not only from an engineering point of view, but also from a commercial or money-earning point. The most serious problem and expense not yet satisfactorily solved is the question of rubber tires, but, as before intimated, this will solve itself, for it is safe to assume that in future pavements will be designed to meet automobile conditions. Although the cost of the rubber tire is a serious problem, yet even with the pavements as found today long and careful tests have shown that a very cheap grade of rubber can be used by making the tire wider where the weights are not excessive. This cheaper grade of rubber is fully as satisfactory, if not more so than the higher grade, since it is less affected by weather conditions.

The suggestions here made are not advanced with any other view than the hope that the subject will attract enough attention from our inventive countrymen to finally solve this most important problem, for we need hardly look to our foreign cousins for much help, as we are the only people on earth who will abandon without hesitation pavements that are the best in the world at present and which have cost millions of dollars, if we feel that by making the sacrifice and the new investment we will receive interest on our investment or if our city as a commercial center will be benefited thereby.

### Saving \$18,000 a Year Fuel.

The importance of economy in power is again illustrated in the success of the Key West Electric Co., which owns the electric-light and railway franchises of the city and island of Key West. Something over a year ago this company, appreciating the importance of the internal-combustion engine for utilizing oil as compared with steam, made their first installation of the internal-combustion engine of the oil-burning type, manufactured by the International Power Co. of Providence, R. I. After a year's trial of this form of power for both railway and lighting service the Manufacturers' Record is advised that they are making a complete substitution of this system for their steam-power plant. The scarcity of fresh water on the island makes the internal-combustion engine particularly serviceable for that locality. As a result of the poor water supply, the maintenance of boilers and condensing apparatus has been particularly troublesome. The internal-combustion engines which they put in do away with this, and at the same time are reported to have reduced the fuel bill of something over \$24,000 per annum to less than \$6000. Such a great reduction in a small plant is understood when it is remembered that coal costs \$5 a ton in Key West and that the steam plant consumed on an average five pounds of coal per kilowatt hour, including losses by banking fires, etc., while the company obtains its oil in large quantities at three cents a gallon and their

internal-combustion engines consume only seven-tenths of a pound of oil per kilowatt hour. The Key West Electric Co. was the first corporation to make use of the internal-combustion engine in operating a trolley line, and its reports show that the substitution has proved all that the management had hoped. There will soon be 600 horse-power of these engines in full operation in their power-house, and then the steam plant will be entirely shut down. The success of this company in making such a remarkable saving in fuel will doubtless prompt investigation by many other electric and railway companies, as well as by other power users, of the new system.

### BRUSH CREEK COAL.

New Operations Begun in Southeastern Kentucky.

[Special Cor. Manufacturers' Record.]  
Middlesboro, Ky., November 14.

A general improvement in the coal and iron industry in this region is indicated by the present trend of development. During the dull summer season, when some of the coal operators had all they could do to make both ends meet, there was no cessation in activity, and now, under an improving market, new developments are being made on all sides.

Operations in the Southeastern Kentucky field along the Cumberland Valley division of the Louisville & Nashville are attracting a great deal of attention, and during the past two months no less than a dozen companies have commenced operations. Several branch lines to penetrate new fields are in course of construction, and by the end of the year the field will be greatly extended.

Among the biggest operations are those of Eastern capitalists in the Brush creek field of Knox county. Three big concerns—the Cumberland Coal Co., the Bell-Jellico Coal Co. and the East Jellico Coal Co.—are extending branch lines to new openings. The Cumberland Railroad Co. has a line projected up the valley of Brush creek, and the East Jellico people are building a several-mile extension from their Coalport property into the new fields. The Bell-Jellico Company will enter the field from a different direction and will cross from the Cumberland river side in Bell county.

Deposits of coal on Brush creek are very rich and the grade is superior to that found in the immediate vicinity of this place. One seam opened up is seven feet in thickness and is a high-grade steam and fuel coal. Three other veins have been investigated, two ranging in thickness from four to five feet.

Other new concerns operating along the C. V. division are John G. Matthews and others of Barbourville and the Ingalls Coal Co., composed of local people. Both operations are in the same section. The former concern is constructing a railroad extension to a four-foot six-inch opening, and the latter concern is preparing for initial work. A new company was organized last week to develop coal lands across the Cumberland river in Knox county. A railway line will be necessary.

Older companies are extending operations. The North Jellico Coal Co., the largest operators in the Kentucky, Virginia, Tennessee fields, is developing its Blue Gem seam in Knox county and has constructed a line on which electric motors will be operated. All the operations of this concern are done by electricity. The Barbourville-Blue Gem Coal Co. is a new concern which now has its product on the market.

About 400 cars daily are now being shipped from this section. Among the largest operators are Excelsior Coal Co., Ralston Coal Co., Bennetts Fork Coal & Coke Co., Reliance Coal & Coke Co.,

Mingo Coal & Coke Co., Winona Coal & Coke Co. and Nicholson Coal Co.

Last week an important deal was consummated, R. C. Ford and others of this place acquiring several thousand acres of coal land in Claiborne county, Tennessee. The consideration was \$40,000. Plans will at once be considered for the development of this territory. Mr. Ford, in connection with E. C. Camp, the millionaire Coal creek operator, and others are now engaged in developing lands near this place.

It is stated unauthoritatively that the Virginia Iron, Coal & Coke Co. will blow in its furnaces here about the first of December. A large force of men has been employed all summer in making repairs. About the same time the steel plant at Max Meadows, Va., will be put into operation. This concern owns about 50 furnaces throughout the South, most of which are idle.

A building and loan association has been organized here by some of the most prominent people.

W. S. HUDSON.

### SOUTHWESTERN OIL FIELDS.

**Humble, Texas, Now a Center of Interest for Operators.**

[Special Cor. Manufacturers' Record.]

Beaumont, Texas, November 13.

Humble, 18 miles from Houston, is the center of interest in the Southeast Texas oil district. Good showings of oil have been obtained in three wells in the last 10 days, and the majority of operators who have visited the place expect to see it develop into a gusher proposition after the pattern of Sour Lake and Batson in the early days of their development. Following the blowing in of the Higgins Oil & Fuel Co.'s gas well there occurred an upheaval with oil showing in the Sharp well, and the same sort of showing has appeared in two other wells, one known as Staiti's and the other as Barrott's. Land prices are soaring. An offer of \$5,000 was made for one acre out of the Higgins 40-acre tract. It was refused. Fractions of acres are on the market at figures which mount up into the thousands. Already there is talk of a pipe line to Houston, but the uses of such a line would be limited to the fuel demand, and in the event that the oil should prove of light gravity, the demands of the Southwestern Oil Co.'s small refinery at Houston.

Jennings, La., continues to make 50,000 barrels a day. Efforts to bring in new gushers in the past two weeks have not been successful. The nine flowing wells are showing a slight percentage of decrease, but their combined production remains near the 50,000-barrel mark. Adding the pumping wells, with their 2200 barrels a day, brings the total production past 50,000 barrels a day. More than 2,300,000 barrels of oil were in storage in the field and at the loading stations on November 12. Shipments are being made at the rate of about 35 cars a day from the three loading points—Jennings, Mermen-tau and Egan. In October the shipments from the Jennings loading rack amounted to 488 cars, from Mermen-tau 425 cars and from Egan 36 cars, or a total of 949 cars of 222½ barrels average capacity. The report shows that the total movement was 211,117 barrels.

On October 31 the temporary injunction on the Latreille 40 acres at Jennings was dissolved, and work was resumed on the three wells which were compelled to hang up when the writ was issued.

Considerable publicity has been given to the reported project to construct a pipe line from Jennings to the Mississippi river, a distance of 150 miles or more. There seems to have been no more basis for this report than the fact that the thing was mentioned in conversation as a

possibility in the event that the Jennings product could not be marketed satisfactorily by way of the railroad.

HOLLAND S. REAVIS.

### PETROLEUM IN 1903.

#### Large Increase in Its Consumption as Fuel.

Among the natural products whose benefit to mankind never grows less is petroleum. The production for 1903 was greater than that of any previous year. This important fact is noted in the beginning of Mr. F. H. Oliphant's annual report to the United States Geological Survey, which is entitled "The Production of Petroleum in 1903."

The total production of crude petroleum in the United States in 1903 was 100,461,337 barrels, a gain of 11,694,421 barrels, or 13.17 per cent., over the production of 1902. The great increase was mainly due to the remarkable output in California, which is now larger than that of any other State. California produced 24.27 per cent., or nearly one-fourth of the entire production.

Next to California, the largest gain in production was in Indiana, which was 1,705,515 barrels, an amount that represents a gain of 22.80 per cent. over the State's production in 1902. Kansas showed a remarkable gain in production—600,465 barrels, or 181 per cent.; Kentucky and Louisiana showed gains of about 369,000 barrels each; Indian Territory gained 101,811 barrels, or 274.4 per cent., and New York gained 43,248 barrels, or 3.86 per cent.

On the other hand, there was a slight decrease of production—128,086 barrels, or 0.708 per cent., in Texas, and Ohio, Pennsylvania and West Virginia all showed decreased production, amounting to a total of 1,856,619 barrels, or 3.98 per cent., in 1903 as compared with 1902. The largest decrease in production in 1903 was in Pennsylvania, and amounted to 708,724 barrels.

During the last six years there has been a very remarkable change in the percentage of the local production. The Appalachian and the Lima-Indiana fields, which for many years produced all but a very small percentage of the whole, produced in the year 1903 only 55.38 per cent. of the total, whereas in 1898 these fields produced 93.99 per cent. of the total. California and Texas have been the most important factors in bringing about the readjustment of the percentages of production.

The increased production in the States of Texas, Louisiana and California of large quantities of an inferior grade of petroleum made necessary new markets and new conditions of transportation that were unknown to the older fields. Demand was also made for a large amount of capital to be invested in tanks, pipe lines, tank cars and tank vessels. The markets and transportation for this new product have been secured to a very large extent. During the year 1903 the consumption of petroleum as fuel and as an enricher of manufactured gas has been very largely increased.

A considerable quantity of Texas petroleum has been refined with satisfactory results, but the percentage of the yield is much smaller than from the Eastern petroleum. When the value of the petroleum produced in the Appalachian and the Lima-Indiana fields is considered in comparison with that of all the remaining fields, it is found that 82 per cent. of the total value comes from the 55.38 per cent. of the total production furnished by those fields, the remaining 44.62 per cent. of the total production receiving 18 per cent. of the total value. This means that 3.8 barrels of the Southern and Western petroleum is required to equal the value of one

barrel of that produced in the Appalachian and the Lima-Indiana fields.

The general average price paid for crude petroleum was greater by 14.07 cents per barrel than the average price for 1902. The average price paid for Pennsylvania petroleum showed an increase of 35.25 cents, and the average price in the Lima-Indiana field was about 27 cents a barrel more in 1903 than in 1902.

Stocks held in tanks in both the Appalachian and the Lima-Indiana fields were considerably decreased during the year.

There was a slight decline in the quantity of all grades of petroleum exported during 1903, and a slight gain in their value when compared with that of 1902. A decided decrease appeared in the quantity of the illuminating petroleum exported, and a considerable increase in both quantity and value of the lubricating petroleum exported during 1903.

The demand for home consumption continued to increase during 1903, the Western demand being partly supplied by refineries in Texas, Kansas and Colorado.

Mr. Oliphant's report is an extract from the survey's forthcoming volume, "Mineral Resources of the United States, 1903." It is published also as a separate pamphlet, and may be obtained on application to the director of the United States Geological Survey, Washington, D. C.

### FACTS ABOUT SOUTHERN IRON.

#### Some Revelations for Pennsylvania Foundrymen.

At the monthly meeting of the Pittsburgh Foundrymen's Association, held at Pittsburgh on November 7, Southern iron was a topic of discussion, based on a paper by Mr. Elliot A. Kebler of that city on "Notes on Southern Iron." As reported by the Iron Trade Review, Mr. Kebler's paper resulted in considerable discussion, as he brought out some points with reference to Southern iron that were unknown to many of the foundrymen present. Mr. Kebler's paper was as follows:

"At first sight it seems rather presumptuous to discuss Southern iron before foundrymen of this district, for it is well known that about one-fourth of all the pig-iron in the United States is made in this county, and that the Alabama iron can only reach Pittsburgh by paying a freight rate of \$4.35, while from the Virginia field a freight of \$2.55 must be paid. When we look into this more particularly, however, we find that only one furnace is now making foundry iron for sale in this county, and that during 1902 the South produced 1,952,877 tons of foundry iron out of 3,851,276 tons produced in the entire United States. In other words, the South produced 49 per cent., or practically half of the total foundry iron produced in the United States.

"Owing to the great variety of ores which extend through Virginia, Kentucky, Tennessee, North Carolina, Alabama and Texas, the South produces a wide range of iron. In North Carolina the lowest phosphorus and sulphur iron, we believe, in the world is being made, running on an average .025 in phosphorus and sulphur.

"In Alabama a low silicon iron averaging about .40 is produced, from which the highest grade of basic rails are now being turned out in the steel works of the Tennessee Coal, Iron & Railroad Co. These stand a greater punishment without fracture than the Bessemer rails generally used; in fact, a blow which will break a Bessemer rail will only bend a Southern basic one.

"At the other extreme, there is produced in Virginia a 50 per cent. silicon iron, and further South an 80 per cent. manganese and a 20 per cent. phosphorus, so that you can readily see the wide range of irons which come from the Southern ores, running from low silicon up to 50 per cent.,

in manganese .25 to .80 and in phosphorus .025 to 20 per cent.

"This wide range of ores was not at all appreciated when Southern pig-iron was first marketed in the North, and all was sold under the one name of Southern iron. You can readily appreciate the trouble which the foundrymen had in trying to use irons widely different in chemical constitution, but sold to them simply under the one name. This trouble, however, has been obviated, and the South today has a very close system of grading by fracture. By fracture Southern iron is sold under the following grades, and while silicon is not guaranteed, it usually runs about as follows: No. 1 silvery, 4 to 5 per cent.; No. 2 silvery, 3 to 4 per cent.; No. 1 soft, 3 per cent.; No. 1 foundry, 2.75 per cent.; No. 2 soft, 2.50 to 2.75 per cent.; No. 2 foundry, 2.35 per cent.; No. 3 foundry, 1.90 per cent.; No. 4 foundry, 1.75 per cent., although it often runs much higher; gray forge, 1.35 per cent.; mottled, 1 per cent.; white, .30 per cent.

"The silvery, soft and No. 4 foundry are distinctively Southern grades, and are distinguished by the dense silvery appearance of the fracture, which to those not familiar with the Southern irons is so deceptive that foundrymen have added high silicon to them, thinking that the fracture denoted low instead of high silicon. As stated, the above silicon are merely approximate, and no guarantee of the analysis is made when iron is sold by fracture. Some of the leading furnaces of the South, however, are also willing to sell strictly by analysis, guaranteeing as follows: Silicon over 3 per cent., sulphur not over .05; silicon 2.50 to 3 per cent., sulphur not over .05; silicon 2 to 2.50 per cent., sulphur not over .05 or .075; silicon 1.50 per cent. and under, sulphur not over .075.

"These, of course, are the maximum sulphur contents, and the sulphur which is shipped ordinarily runs less than half of the sulphur guarantee.

"In regard to using Southern iron, the standard Alabama grades ordinarily contain from .75 to .95 phosphorus, and as it is currently conceded that this per cent. of phosphorus does not materially weaken the pig, these irons can be used for general work without any admixture of lower phosphorus iron. Where especially strong castings are required results can be obtained by reducing the silicon or using a lower phosphorus pig in your mix, which can also be secured from the South. In fact, at the foundry with which we were connected for many years, in addition to some 60,000 tons of pipe, there were also cast some 20,000 tons yearly of high-grade machinery and special castings without the admixture of any Northern iron. Of course, where you have iron made from Lake Superior ores to draw from, it is simpler to make your mixture partly with these; in fact, from our experience we believe best results are obtained in ordinary work by mixing irons made from different ores.

"For instance, during the rush of a few years ago, when none of the furnaces were as careful as they should be in their grading, the Northern iron was deficient in silicon, and higher silicon than usual were shipped from the South. At that time we visited one foundry which was using all Northern pig, and found the arms of their flywheels cracking after they were cast by reason of the low silicon in the mix; and a few squares away another foundryman using nothing but Southern iron was troubled by the brittleness of his castings, as his mixture was running over 4 per cent. in silicon. The trouble at these foundries was completely rectified by the one hauling some of its low silicon to the other and bringing back in exchange some of the high silicon. If



each of the foundries had been using a mixture of Northern and Southern irons they would not have known that the analysis of each was so completely different from what they had ordinarily received.

"Of course, in localities such as this, where so much iron is produced from lake ores, the demand is principally for the soft grade of Southern iron to take the shrinkage out of the mixture, and thus really strengthen the castings into which the iron is poured; but, in addition, foundries are getting splendid results by the use of the lower grades of Southern iron in place of scrap, and to reduce the excess of graphite in heavy casting work. In addition to this, the higher phosphorus Southern irons are particularly applicable for the castings of very light sections, such as stove plates, etc., as the higher phosphorus and silicon make the iron fluid and the castings very sharp and clean. Splendid results are also obtained with the 1 to 1.75 manganese Southern irons, which reduces the sulphur and cleans the iron.

"There is a growing demand for Southern iron as the foundries are learning the advantages to be obtained from the use of higher phosphorus in their mixture, and they must now almost rely on the South for this, as the local Northern ore beds, which formerly supplied the phosphorus for the Scotch irons, are being pretty well worked out. And owing to the use of lower phosphorus irons in puddling and the large amount of steel which is being rolled, the tap-mill cinder and roll scale is not as high in phosphorus as formerly, and therefore cannot be used as successfully to bring up the phosphorus contents of the pig-iron in the Northern blast furnaces.

"In steel, as you are aware, every effort has been made for years to reduce the phosphorus contents, but in this the practice is also changing, and pig-iron one-fifth of which is phosphorus is now added to the steel to purify it from dross and to keep the sheets into which the steel is rolled from sticking together when passed through the rolls. In addition to this, it is found that the plates are more easily cleaned and pickled for galvanizing, and in fact the steel is stronger with a limited amount of phosphorus added.

"The change in feeling in regard to phosphorus is very striking. For instance, when we started in the iron business as chemist every article we read told of the trouble experienced with phosphorus, and we were greatly surprised after getting up

a process for eliminating in the cupola about one-quarter of our phosphorus to find that the iron was not as suitable for the work as it was before."

### TO FACILITATE COMMERCE.

#### Building a New Port on the Gulf Coast.

[Special Cor. Manufacturers' Record.]  
Texas City, Texas, November 12.

A new seaport is not born so frequently that its advent is a mere matter of detail. A port equipped for handling commerce up to millions of tons annually does not spring, fully matured, from the soil. The completion of a plan of this sort marks an epoch in the history of the region it is designed to serve. Especially is this true when the traffic of that region is increasing by such strides that all calculations and expectations of growth are dwarfed by the reality.

Ease of commercial communication, both interstate and export, has always been one of the most important factors in the growth of the United States. Step by step, and one after another, the isolated regions have been brought into connection with the rest of the continent. Their developments, following a rule of orderly sequence, have compelled the admiration of the world. Successively the Northwest, the far West and the South have come forward into their place and taken their part in that wonderful uplift of the American people that is now the most potent fact in our life, and that has astonished our contemporaries. Everywhere west of the Mississippi river that movement is still under way with an energy, an activity and a keenness that have never been surpassed.

As the Southwest is the newest of those regions whose commercial history is still in the making, it is in the Southwest that some of the most striking examples of present-day development are naturally found. The tide is setting in along the Gulf of Mexico, and here on the Texas coast is one of the most significant attempts that has yet been undertaken of a successful effort to found a city and make a commercial depot.

Everywhere traffic follows the line of least resistance, and an axiom of transportation is that the rail haul shall be as small a portion as possible of the total mileage in comparison with the distance to be covered by water haul. The line of least resistance includes not only the shortest distance to terminals, and particularly the shortest rail haul, but also

quickest dispatch and fewest and most inexpensive transfers as well as lowest cost of all small items that go to make up through freight charges.

Gulf ports have a tremendous future. What they have done is the best evidence of how sure they are to grow.

There is room for more facilities along the Gulf of Mexico than are yet provided for its business; there are opportunities for more ports than yet share in its infant but lusty trade. It is a difficult matter to draw a line bounding the territory whose commerce is tributary to the Western Gulf. The Mississippi river might be regarded as its eastern boundary but for the fact that a great share of its trade is direct from Chicago and did not all the vast bulk of Eastern commodities seeking the Pacific coast via the Southern Pacific first touch land at the Gulf. A million bars of copper, refined in smelters in Mexico, Arizona, California and Utah, passed through a single Gulf port on its way to the East and to Europe in 10 months ending with last June. Flour ground at Minneapolis and interior Minnesota and Dakota points, where there is deep water reaching due east almost from the mills, first touches tidewater on the Gulf on its way to the United Kingdom and the Continent. On the other hand, cotton from the very door of Galveston touches the Pacific at Seattle for the Orient. The laws governing commerce are of delicate adjustment and are influenced by so many trade relationships that it is often difficult to briefly define them.

But there is no room for jealousies between cities that can share in this Southwestern trade. It is enough to fire them all with the magnitude of its possibilities. Texas alone, with its cotton, its oil, cattle, timber, rice and minerals, is enough to excite the imagination. A new progress whose importance is not yet appreciated by the American people, that of the reclamation of arid lands, will add millions to the population that must seek the Gulf for its outlet. Adjacent and to the south lies Mexico, a land whose introduction to modern ways and modern development is recent; a land that trembles on the verge of an uplift similar in kind and degree to that which has placed the United States in foremost rank; Mexico, a land ready and glad to make far closer business and commercial relations with her neighbor across the Rio Grande than have yet been established. Who can estimate the possibilities of a nation that is able and willing to spend, and is actually now spend-

ing, \$85,000,000 gold in the improvement of two harbors upon a single line of railway? For all the stupendous business to be interchanged with Mexico, no ports are in the same class as those lying on the same great Gulf and separated only by a row of customs regulations and the Rio Grande river.

That area in the American Southwest tributary to Gulf ports produces the larger part of the products of the soil destined for foreign points. From all that vast region it is little more than half as far to Gulf ports as to those of the Atlantic seaboard. It is well known that rates for carriage by rail are far higher than for a corresponding distance by sea, and it is a fact that freight from Gulf ports to Europe are but 20 per cent. more than from the Atlantic. There is, therefore, a shorter rail haul, and, consequently, greatly reduced cost of land transportation and an almost directly competitive ocean rates, so it is no wonder that the Gulf is rapidly taking from the seaboard and from the longer rail haul a large share of Southwestern export trade. The logic of the situation will force a continued increase in this growth. The attention of Eastern trunk lines have been directed to the Southwest, and Gulf ports are now a very important factor in the foreign trade of the country. With all this increase, which is only in its beginning, there is room along the Gulf for the growth and development of well-situated ports with modern facilities for economical transshipment of the great volume of commerce trending in that direction.

Recognizing the advantages centering near Galveston as a depot for the commerce of the great Southwest and as a point of entry from Mexico, a city has been founded whose facilities are already large and commodious. The founders of this new entrepot of Texas City selected their location with extreme care. It is situated on the mainland of the west shore of Galveston bay, across the lower end of the west bay from the city of Galveston. As is well known, Galveston is on an island reached by a railway bridge 12,000 feet long, and a great seawall has just been completed to fend off any danger of a repetition of the disaster of a few years ago. A channel from the Gulf of Mexico to the wharves of Texas City permits vessels drawing 25 feet of water to tie alongside her piers. The ground on which the city is laid out lies 12 feet above mean tide, and that is the elevation of docks and warehouses. This, in addition to its

## TWO YEARS IN IRON AND STEEL.

### Part Played by the United States Steel Corporation.

The American Iron and Steel Association, in its annual report just published, gives statistics which make it possible to study the percentage of the iron and steel trade of the entire country controlled by the United States Steel Corporation for the calendar years 1903 and 1902. These figures show that in some branches of the

trade the independent iron and steel people are making a gain on the Steel Corporation, and they show, moreover, that the Steel Corporation does not so completely dominate the steel industry of the country as many people have been led to suppose, though it does control about one-half of this industry. Of the total pig-iron production of the country, including Bessemer, basic, foundry and all other kinds, for 1903 the Steel Corporation

made 39.9 per cent., whereas in 1902 it made 44.7 per cent., showing a gain by the independent companies of nearly 5 per cent. Of Bessemer and open-hearth steel ingots and castings the Steel Corporation had in 1903 63.5 per cent., against 65.7 per cent. in 1902. In the total of all finished rolled products, which include rails, shapes, plates, rods, cut nails, etc., the Steel Corporation had 51.2 per cent., against 50.8 per cent in 1902, and of wire

nails it had 70.6 per cent., against 64.8 per cent. in 1902. These figures show that while there was a decrease in the percentage in some branches of industry, there was an increase in others. The comparison as presented in the following table is an interesting study as to the magnitude of the iron and steel industry of the country and of the vast operations of the one corporation which, as a whole, controls about one-half of this industry:

	1903.				1902.			
	By U. S. Steel Corporation.	By independent companies.	Total shipments and production.	Percentage of U. S. Steel Corporation.	By U. S. Steel Corporation.	By independent companies.	Total shipments and production.	Percentage of U. S. Steel Corporation.
Shipments of iron ore from Lake Superior region.....gross tons..	14,233,083	9,996,796	24,229,879	58.8	16,659,470	10,911,651	27,571,121	60.4
Total production of iron ore.....gross tons..	15,363,355	19,635,353	35,019,308	43.8	*16,063,179	19,490,466	35,554,135	45.1
Production of coke.....net tons..	8,568,391	16,903,969	25,472,360	34.2	9,521,567	15,880,163	25,401,730	37.4
Iron and steel actually produced—Gross tons.								
Bessemer, basic, low-phosphorus, foundry, forge, and all other kinds of pig-iron..	7,123,653	10,693,538	17,816,591	39.9	7,802,812	9,905,514	17,608,326	44.3
Spiegeleisen and ferro-manganese.....	156,188	36,473	192,661	81.0	172,718	40,263	212,981	81.0
Total pig-iron, including spiegeleisen and ferro-manganese.....	7,279,241	10,730,011	18,009,252	40.4	7,975,530	9,945,777	17,921,307	44.7
Bessemer steel ingots and castings.....	6,191,690	2,401,169	8,592,859	72.0	6,759,210	2,379,153	9,138,363	73.9
Open-hearth steel ingots and castings.....	2,976,300	2,853,611	5,829,911	51.0	2,984,708	2,703,021	5,687,729	52.4
Total Bessemer and open-hearth steel ingots and castings.....	9,167,990	5,254,780	14,422,740	63.5	9,743,918	5,082,174	14,826,092	65.7
Bessemer steel rails.....	1,934,315	1,012,441	2,946,756	65.6	1,920,786	1,014,606	2,935,392	65.4
Structural shapes.....	660,978	434,835	1,095,813	60.3	753,481	546,845	1,300,326	57.9
Plates and sheets, including black plates for tinning.....	1,567,223	1,042,442	2,599,665	59.9	1,583,905	1,081,544	2,665,409	59.4
Wire rods.....	1,100,290	408,165	1,508,455	73.1	1,126,826	447,467	1,574,293	71.5
Bars, skelp, cut nails, open-hearth and iron rails and other finished rolled products.	1,510,085	3,551,923	5,062,008	29.8	1,701,700	3,766,996	5,468,696	31.1
Total of all finished rolled products.....	6,762,891	6,444,806	13,207,697	51.2	7,086,658	6,857,458	13,944,116	50.8
Wire nails.....kegs of 100 pounds..	6,801,180	2,830,481	9,631,661	70.6	7,122,354	3,859,892	10,982,246	64.8

\* Includes the total production of iron ore by the Pewabic mine, but does not include the production of the Biwabik and Mahoning mines for the account of the United States Steel Corporation.

convenience for shipping, is of great advantage in making a city, and will, incidentally, solve the sewage problem. As it is the latest terminal city, its facilities are absolutely up to date. A terminal railway has been built, connecting with three or four lines reaching the Gulf at this point, and a short extension will soon tap the fourth trunk railway. This will give Texas City as complete rail connections as any point south of Houston. It will have direct terminal connections over its own line with Santa Fe, the Galveston, Houston & Henderson, International & Great Northern and Missouri, Kansas & Texas. In the plan of the town 1200 acres lying directly on the water-front have been set aside for terminals, and freight can be landed on the wharves in unbroken bulk. This is a matter of no small importance, as transfers of freight, either by breaking bulk or otherwise, from one railway to another or between railways and ships cannot be done in crowded cities except at extraordinary expense and serious delays, and there is not only no advantage in transfer of water and rail traffic in the heart of a city, but it is an obstacle that railways are appreciating at its full importance. The company has built two large piers and erected on them warehouses and sheds fitted for the class of freights to be handled, and will install automatic conveying machinery for moving goods between tracks and shipping. A modern fireproof elevator of 1,000,000 bushels capacity is to be constructed. Other facilities for the rapid and economical handling of freight are to be installed as fast as required.

But facilities for the handling of commodities at reasonable costs, on however large a scale, are useless without the traffic to keep them active. Texas City is fortunate in having for its founders men of wide business experience and ample capital. They have broad acquaintance, not only with men, but with problems of traffic, transportation and commerce, and they enjoy far-reaching connections. They have the friendship of the Mexican government. As one step of their development they have organized and begun operation of a line of steamships that shall connect Texas ports with the entire Mexican gulf coast as far as Progreso and Campeche in Yucatan. This is the first line of regular sailings to link the American gulf coast with ports along the shores of the sister republic. As a stroke of national policy the inauguration of this line is a matter of the utmost importance. The founders of Texas City own their own railway and equipment, their docks and harbor and their terminals, and propose that these shall be utilized upon the easiest and most favorable terms. Tapping all trunk lines of railway that debauch on Galveston bay, as they will soon, none of the roads or steamship lines in that part of the Southwest can fail to recognize the probable importance of this new port or neglect the opportunities it offers for the cheap and rapid transaction of their business.

The main object of the founders of Texas City has been to prepare for handling that flood of through rail and water commerce they considered sure to come with the increase in population pouring into and taking its part in bringing into concrete facts the opportunities of the Southwest. For mere local business they did not care so much. Many of them were accustomed to freight traffic on a large scale, both by rail and water, and they realized its importance. This summer they have reached the point where they can begin to look on a work far enough toward completion to indicate whether or not their ideas have been wise or their expectations of the growth of the Southwest too enthusiastic.

### Exhibited at St. Louis.

[Special Cor. Manufacturers' Record.]

St. Louis, Mo., November 15.

The exhibit of the Foos Scientific Grinding Mills at the Louisiana Purchase Exposition, illustrated herewith, has been awarded the gold medal. It was the largest and most complete exhibit of grinding mills in the Agricultural Palace, and attracted a great deal of attention because of its scope. Specimen machines of every kind, from a sweep grinder for individual farm use to the largest grinding mills used in commercial enterprises, comprising in all over 50 styles, which have been the development of the Foos Manufacturing Co. of Springfield, Ohio, in its 25 years' experience, are in the exhibit. The company closely followed the development of the use of ground feed, the economy of which is now so well understood. It was a pioneer in building machines for grinding ear corn, thus combining with the highly nutritive value of the grain the necessary roughage of the cob. From this the work has extended to furnishing mills for grinding a great variety of food-stuffs and utilizing the by-products of many of the large milling enterprises.

A unique feature of the Foos exhibit was the display of an attrition mill fitted with open-belt reverse-drive countershaft, a most convenient and economical method of driving these mills. There was also shown, in combination with this, ear-corn crushers of all sizes, from the small ma-

chine capable of handling only a few bushels an hour to the large machines whose capacity is rated in tons. It must be remembered that the capital stock of a municipality is the unoccupied territory and business opportunities within its particular sphere of influence. These, speaking in the language of trade, are what the municipality has to "sell." Every institution located in a legitimate line of production, every family brought into the territory, every farm improved adds just that much to the business resources of the community by increasing the productive and consumptive power of the people, and to that extent increasing the market.

The railroads, opening up new countries, recognize the fact that "a land without people is a wilderness" and will produce no revenue. Their efforts, therefore, are directed to the development of that country by securing settlers—freight-producers. One family well located on a quarter section of land within 10 miles of a railroad line is worth to the road more than a whole carload of excursionists. If the money spent by the passenger departments of the great Western trunk lines were directed to the purpose of securing and locating permanent settlers in the territory directly adjacent to the lines the result would soon be felt in increased dividends and advancing stocks.

As a general rule, however, railroads are good advertisers. They bear the brunt of exploitation in every new country. Their efforts should be supplemented by every growing city through its public commer-



FOOS MANUFACTURING CO.'S EXHIBIT.

cial body. This should be conducted as an ordinary business proposition.

The secretary should know what he wants and how to go after it. Get your goods before the people who want to buy.—*Opportunity.*

### Alabama Pipe Works to Enlarge.

It is stated that the United States Cast-Iron Pipe Co. will enlarge its plant at Bessemer, Ala., at a cost of about \$200,000. The contemplated improvements are said to be necessary because of the company's recently-received contract for supplying most of the pipe to be used in the work on the water supply of Panama in connection with the construction of the Panama canal. The company is reported to have now on file contracts sufficient to keep its entire plant in operation for the next year.

### Locations for Industries.

Among the progressive cities of the South offering inducements to secure the establishment of worthy industries is Covington, La. Admirable sites for small manufacturing plants, canneries and other industries can be found in Covington. The city is located on the Mississippi river 35 miles from New Orleans, thus affording cheap shipping rates to that distributing point. The Covington Progressive Union can be addressed for information regarding Covington's advantages.

## TEXTILES

[A complete record of new textile enterprises in the South will be found in the Construction Department.]

Correspondence relating to textile matters, especially to the cotton-mill interests of the South, and items of news about new mills or enlargements, special contracts for goods, market conditions, etc., are invited by the Manufacturers' Record. We shall be glad to have such matter at all times, and also to have any general discussion relating to cotton matters.

### A 25,000-Spindle Mill.

The Davis Cotton Mills and the mill of Walter M. Jackson and associates of Augusta, Ga., which have been separately referred to, are the same enterprises. Arrangements for establishing the plant have been about completed. Plans and specifications are being prepared by Messrs. T. B. Hitchcock & Co. of Columbia, S. C., and call for the erection of a three-story structure 100x300 feet for the main building. A modern steam-power plant will be installed, together with 25,000 spindles and 720 looms, for the production of 28-inch seven-yard print cloths. Contracts for the construction of the plant will be awarded by December 1, while some of the machinery contracts have already been signed. This plant is to be located at North Augusta, S. C., opposite Augusta, Ga. The company is capitalized at \$500,000. Charles Warren Davis is president; Walter M. Jackson, vice-president and treasurer, and W. E. Andrews, secretary.

### The Gray Manufacturing Co.

The Gray Manufacturing Co. of Gastonia, N. C., has been incorporated with a capital stock of \$150,000 for the purpose of building a cotton factory. It has been organized with George A. Gray as president and treasurer, and will make arrangements for the erection of buildings and the installation of machinery for manufacturing print cloths. The equipment will include 10,000 ring spindles and 350 looms, together with steam-power plant and other complementary apparatus. It is understood that no contracts have been awarded as yet and that construction work will not begin before next spring. Mr. Gray has been instrumental in building a number of mills. He is now president of several mill companies in Gastonia.

### Looking for Outside Capital.

Mr. C. D. Carmichael of Geneva, Ala., president of the Industrial Association of that place, writes that the association is planning to build a cotton factory, and that something like \$12,000 or \$15,000 has already been subscribed for it. For the success of the enterprise he feels that the co-operation should be enlisted of someone who understands the details of the business, construction of the building, etc. He asks whether it would be possible to interest outside capital on the condition that one-half the stock be subscribed locally.

### Completing Plant at Columbus, Miss.

The Columbus Underwear Co. of Columbus, Miss., will have completed by December 1 its knitting mill previously reported. This plant is being equipped with 1440 cotton spindles, six sets of cards, 45 knitting machines, 100 sewing machines, etc., for the production of cotton and wool fleece-lined underwear. It will be in operation by December 1. The company is capitalized at \$100,000, and its president, F. W. Kavanaugh, was formerly of Cohoes, N. Y., where he operated a similar plant.

### The Adams Knitting Mill.

Some weeks ago the Manufacturers' Record reported the intention of R. L. Adams of Gadsden, Ala., to establish a

### Municipal Advertising.

Publicity is the key to twentieth century business success. He who has a business must get that business before the world, or the world will pass him by.

The general laws which apply to ordinary business institutions also apply to communities and cities. To settle up a country you must exploit its resources; to build up a city you must advertise to the world its industrial and commercial possibilities.

Municipal advertising has become a distinct branch of business publicity. Chambers of commerce, boards of trade and commercial clubs are the mediums through which a municipality can best reach the general public. Every community has its strong points as a place of residence or as a commercial or manufacturing center. These facts must be set forth and given to the public in some way if there is to be any progress. The only question is, how can it best be done?



knitting mill representing the investment of \$10,000. Mr. Adams has since completed his arrangements and will install an equipment of 10 knitting machines and seven sewing machines to start with. Ladies' undervests will be the product. The plant will be known at the Adams Knitting Mill.

#### The Cotton Movement.

In his report for November 11 Col. Henry G. Hester shows that the amount of cotton brought into sight during 72 days of the present season was 4,635,355 bales, an increase of 988,807 bales. The exports were 2,294,915 bales, an increase of 465,239; takings by Northern spinners 531,210 bales, an increase of 136,893; by Southern spinners 517,691, an increase of 67,345 bales.

#### Cotton Waste Wanted.

The Northrop Lubricating Oil Co., 316 North Main street, St. Louis, Mo., wants to correspond with manufacturers of cotton waste, white and colored, with a view to contracting for carload lots.

#### Textile Notes.

It is reported that E. C. Smith of Edgefield, S. C., will establish a hosiery-knitting mill at Williston, S. C.

Messrs. R. C. Irwin, S. R. Leatherman and J. H. Smith of Irwin, Tenn., have incorporated the Irwin-Leatherman Cotton Co. with capital stock of \$25,000.

The Nokomis Cotton Mills of Lexington, N. C., will add 3000 spindles. This company is at present operating 12,480 spindles and 320 looms on the production of print cloths.

The Hagerstown (Md.) Silk Co.'s new mill building, previously reported, will be four stories high, 50x150 feet, and is to be completed by January. About 50 looms will be installed in this structure.

Joseph Shwarts has purchased the Corsicana Cotton Factory at Corsicana, Texas, from parties who recently bought it at public sale. He will continue the plant in operation, running 5000 spindles and 150 looms.

Messrs. J. Freed, A. S. Elder, J. A. Landis and Harry H. Elder have purchased the Trenton Cotton Mills of Trenton, Tenn. They will at once incorporate a company to operate the plant, which has 6000 spindles and 160 looms.

Messrs. S. Vernon Muckenfuss of Spartanburg, S. C., and G. Edgar Rodgers of Charleston, S. C., have incorporated the Jordan Manufacturing Co. with capital stock of \$20,000 for the purpose of manufacturing cotton and woolen goods.

It is reported that Boston capitalists have purchased from the Florence Railroad & Improvement Co. a site at Florence, Ala., for the establishment of a \$500,000 cotton mill to be built and operated under the corporate title of the Florence Cotton Mills Co.

A. W. Young of Hillsboro, Texas, mentioned last week as having represented the bondholders of the Hillsboro Cotton Mills in the purchase of that plant, announces that a new company will be organized to operate the mill. There are 2600 spindles and 80 looms in position.

The recent report that the Dardanelle (Ark.) Cotton Mills has been sold to New York and Texas manufacturers has been verified. The purchasers are Messrs. W. A. Price of Belton, Texas, and Mr. English of New York city. They will operate the plant, which has 3000 ring spindles.

Messrs. J. O. Moore, T. T. Tomlinson, A. B. Smith, George Carnichael and others have incorporated the Hillsboro Cotton Mills to take over and operate the established plant at Hillsboro, Texas. The

company's capital stock is \$90,000. There are 2600 spindles and 80 looms in the mill.

The Bellevue Manufacturing Co. of Hillsboro, N. C., reported incorporated recently, will not build a cotton factory, as at first stated, but intends to establish a knitting mill. An equipment for producing children's and misses' hosiery is contemplated. Arrangements are now being made. Sheppard Strudwick is president.

The Lincoln Cotton Mill Co., recently reported as incorporated at Jersey City, N. J., is not prepared at present to give any particulars regarding its plant which is to be located in the South. It has become known that John L. White, who was named as one of the incorporators, is president of the Imperial Trust Co. of Jersey City. E. A. Johnson of Raleigh, N. C., is in charge of the enterprise. Capital stock is \$125,000.

The Cleveland (Tenn.) Woolen Mills has begun the erection of an additional building two stories high, 60x90 feet, to be used as a picker-room and rag store-room. Another structure two stories high, 60x290 feet, will be erected later on. After these two structures have been completed the company will install considerable new machinery. The company is now operating 78 looms, 125 sewing machines, etc., and may double this equipment.

#### QUOTATIONS OF COTTON YARNS.

By Paulson, Linkroom & Co., New York, Philadelphia and Chicago.  
November 15.

No. 10s-1 and 12s-1 warps.....	16 1/2 @ 17
No. 14s-1 warps.....	17 1/2 @
No. 16s-1 warps.....	18 @
No. 20s-1 warps.....	19 @
No. 22s-1 warps.....	19 1/2 @
No. 26s-1 warps.....	20 @
No. 6s to 10s yarn.....	16 1/2 @
No. 12s-1.....	17 @
No. 14s-1.....	17 1/2 @
No. 16s-1.....	18 @
No. 20s-1.....	19 @
No. 22s-1.....	19 1/2 @
No. 26s-1.....	20 @
No. 8s-2 ply soft yarn.....	17 @
No. 10s-2 ply soft yarn.....	17 1/2 @
No. 8s-2 ply hard.....	17 @
No. 10s-2 ply hard.....	17 1/2 @
No. 12s-2 ply hard.....	17 1/2 @
No. 14s-2 ply.....	18 @
No. 16s-2 ply.....	18 1/2 @
No. 20s-2 ply.....	19 1/2 @
No. 24s-2 ply.....	20 1/2 @
No. 26s-2 ply.....	21 @
No. 30s-2 ply yarn.....	22 @
No. 40s-2 ply.....	25 @
No. 8s-3, 4 and 5 ply.....	16 1/2 @ 17
No. 20s-3 ply chain warps.....	20 @
No. 24s-3 ply chain warps.....	21 @
No. 26s-3 ply chain warps.....	21 1/2 @
No. 30s-3 ply chain warps.....	22 @
No. 16s-3 ply hard twist.....	18 1/2 @
No. 20s-3 ply hard twist.....	19 1/2 @
No. 26s-3 ply hard twist.....	21 @

Very strong; good demand.

#### 92-Mile Pipe Line.

Dispatches from New Orleans give brief details regarding an important addition to the petroleum industry of Louisiana. It is announced that Messrs. Heywood Bros. and Benckensten Bros., oil dealers at Jennings, La., will construct a pipe line to transport oil from their city to the Mississippi river. The distance is about 92 miles, and there will be 10 pumping stations built along the route. The firms named have about 2,000,000 barrels of oil in earthen reservoirs now and will soon double that amount, to be stored in additional earthen reservoirs that will be constructed, arrangements for this being now in progress. Eight gushers and from 50 to 60 pumps at Jennings will furnish the supply, total output at present being some 63,000 gallons daily. Messrs. Heywood and Benckensten are operating a refinery, and also send considerable quantities of oil to the refineries at Beaumont, Texas. The new pipe line will go through rich sugar-cane-growing and sugar-manufacturing districts, and the owners of the plantations and sugar factories will be in a position to obtain the cheapest kind of fuel.

The American Steel & Wire Co. has leased a large warehouse at Louisville as a center for the distribution of its products in the South and West.

## LUMBER

[A complete record of new mills and building operations in the South will be found in the Construction Department.]

#### Lumber in Porto Rico.

M. S. Geigel of San Juan, Porto Rico, who has just organized a colonial agency of American manufacturers, writes to the Manufacturers' Record as follows:

"My aim is to establish at some future day, which I hope is not far distant, a first-class exhibition room for building material, in connection with an agency for the same material, where builders and real estate owners may order whatever building material they want. I am already in touch with several American manufacturers of such goods, to wit, staff work, fire-bricks, compressed-cement building blocks, paints, roofing, lumber, etc., and I am working to secure a permanent trade. Of course, this is a venture not attempted up to now by anybody, and I cannot tell what the results will be. But anyway I am going to try to see if I cannot succeed in building up a good trade in that line of goods, for which there seems to be now quite a good demand. I am particularly interested in lumber for building purposes. I want to see to what extent I can get good building lumber down here in San Juan. I know there are numerous concerns in New Orleans, Savannah and various other ports in the South and North which might want to have an agent here. Lumber sells very well and the demand is brisk at all times. I also take the agency of other goods, but my specialty is building material."

#### Gulfport Shipments.

Although its exports of lumber last year were the largest in the history of Gulfport, Miss., the first four months of the current fiscal year show a gain of over 100 per cent. over the same months of 1903, shipments amounting to 81,000,000 feet, as compared with 39,000,000 feet last year. Activity among the numerous plants producing naval stores along the line of the Gulf & Ship Island Railroad, which southern terminus is located at Gulfport, is indicated in the shipments of naval stores. During the four months ended with October over 51,000 barrels of turpentine and rosin were exported. In the same four months of 1903 no shipments of these commodities were made.

#### The Liverpool Trade.

Duncan, Ewing & Co. of Liverpool, in their circular for October dealing with American pine, report that the import at Liverpool during the month was 32,000 cubic feet of hewn timber, 28,000 feet of sawn timber and 41,000 feet of boards and plank. The consumption was 14,000 feet of hewn timber at Liverpool, 164,000 feet of sawn timber at Liverpool and 85,000 feet at Manchester, and 85,000 feet of boards and plank in Liverpool and 21,000 feet in Manchester. Prices for hewn timber remain firm for boards, and planks became firmer, but for hewn timber there does not seem to be much chance for improvement at present.

#### Lumber Notes.

The banks of Meridian, Miss., have more than 200 lumber mills among their customers.

The Gulfport Turpentine Co., with capital stock of \$20,000, has been chartered to operate at Gulfport, Miss.

The Orange Lumber Co. of Orange, Texas, has received an order for 1,000,000 feet of lumber for Alexandria, Egypt.

The Day Lumber & Manufacturing Co. of Duluth, Minn., has acquired large tracts of timber land near Richland, La.

Between Beaumont and Jacksonville on the Texas & New Orleans Railroad are lumber-milling plants with an aggregate daily capacity of about 1,200,000 feet.

Mr. Walter Thompson of Perth Amboy, N. J., has been in Orange, Texas, arranging for the construction of a dry-dock for New Orleans which will be 100x350 feet over all.

A contract for 800,000 feet of timber to be used in the construction of floating docks for the Merrill Stevens Company has been let to Harrold Weston & Co. at Jacksonville, Fla.

Experts of the American Pencil Co. of New York are taking options on cedar lands near Cotter, Ark., and it is announced that a large cedar yard will be established at that place.

It is reported that J. G. Powell of Lake Charles, La., has purchased 5320 acres of timber land near Kinder, to which a tramroad will be built for shipment of the material to Lake Charles mills.

Rickey & Presler of Indianapolis, Ind., have bought the timber on 150 acres of land 10 miles south of Huntsville, Ala., and have erected a saw-mill in the center of the tract. The lumber will be hauled to Farley, on the Nashville, Chattanooga & St. Louis Railway, and later shipped either to Indianapolis or to South Bend, Ind.

#### For a Terra-Cotta Plant.

William A. Haygood, manager of the South African Supply Co., Ltd., No. 11 Courtis' Chambers, St. Georges street, Cape Town, writes to the Manufacturers' Record as follows:

"I am almost sorry that you published my letter in regard to the manufacture of paper in this country, because your publication is so widely read that I shall be overwhelmed with replies and will only be able to place an order with one house for one paper-making outfit of moderate capacity even should I succeed in securing the order at this end of the line. For the reason given above I am almost afraid to tell you that last week I had an interview with some gentlemen who are preparing to manufacture terra-cotta and have asked me to submit to them a detailed estimate of the machinery required for a terra-cotta plant of a moderate capacity. As I understand it, they propose to begin on the simpler and plainer wares and builders' supplies in what would be considered in the United States a comparatively small way. If you will kindly put me in the way of getting the necessary information, which should cover the question of power as well as the clay-working part of the plant, I shall be put under further obligations to you."

#### American Goods in Africa.

Sabino Antunes, Rua de De Luiz, 1, 82, 1, Lorenzo Marquez, South Africa, who is a constructor and dealer in manufactures of iron, inks, colors, etc., writes to the Manufacturers' Record that he desires to get into communication with exporters of American goods. He writes: "All American products are received very well here by the public and find an extremely ready sale, not only because they are the cheapest, but also because they are good."

#### Opportunity for a Barrel Factory.

Ed M. Hoermans, industrial agent of the Norfolk & Southern Railroad Co. at Elizabeth City, N. C., writes the Manufacturers' Record that there is a good opening at Hertford, N. C., for the establishment of a barrel factory. The region surrounding Hertford grows great quantities of potatoes, and the local factory supplying the barrels cannot meet the demand.

## RAILROADS

[A complete record of all new railroad building in the South will be found in the Construction Department.]

### TOM'S CREEK COAL.

#### Two Railroad Companies Striving to Haul It Down to Tidewater.

According to a report from Bristol, Tenn., Mr. J. Bewley, one of the directors of the Virginia & Southeastern Railway Co., lately chartered in Virginia, is quoted as saying that the company will build a line from Clinchport, Va., to Tom's Creek, Va., following the Clinch river; also, that engineers are now in the field locating a line on the very best possible grade. Mr. D. D. Hull, chief counsel of the Virginia & Southwestern, several officials of which are interested in the proposed Virginia & Southeastern, is reported as confirming the statement that the company will build from Clinchport to Tom's Creek, but further than this he would not talk. At the time of the incorporation of the Virginia & Southeastern it was stated that the company would within three years be carrying coal to tidewater at Hampton Roads or some other point on the Chesapeake. Furthermore, the charter of the company permits it to build as much as 500 miles of line.

Another report from Bristol quotes J. N. Powell, general counsel of the South & Western Railway, as saying that its plans are to complete its proposed trunk line from the Virginia and Kentucky coal fields to the sea. In reference to this a dispatch from Bristol says that George L. Carter, president of the South & Western, is rushing men and grading outfit to Clinchport to extend his line to St. Paul, Va. It is further stated that the southern end of the South & Western has been extended to the summit of the Blue Ridge in North Carolina on its way to a southern connection, and that the company has acquired terminal properties at Southport, N. C. From Johnson City comes the report that work has begun there by the South & Western Railway on the construction of a line along the old roadbed of the Three C's road, which was acquired some years ago.

Thus far but little information has come out about the plans of the new Virginia & Southeastern Railway, which proposes, according to the statement above quoted, to work at least in part of the same field as the South & Western, which is allied with the Clinchfield corporation controlling the Crane's Nest coal mines at Tom's Creek, Va. But it is said that the Virginia & Southeastern also has its eye on Southport, N. C., as a point for coal shipments, and that the purpose of the promoters is really to reach that point, and not some harbor on the Chesapeake.

As heretofore stated, the men prominently interested in this company are Oliver H. Payne and Grant B. Schley of New York, the latter being of the firm of Moore & Schley, bankers; Henry K. McHarg, president of the Virginia & Southwestern, and Walter Ferguson of Stamford, Conn. John B. Newton, vice-president and general manager of the Virginia & Southwestern, is also a director, besides Messrs. J. Bewley and D. D. Hull, Jr., also of Bristol, Tenn.

### HUNTING IN THE SOUTH.

#### Southern Railway Issues Book for Huntsmen, Also One for Tourists.

"Hunting in the South" is the title of a handsomely-illustrated and well-printed pamphlet of 64 pages which has just been issued by the passenger department of the Southern Railway Co. It is full of material which would be interesting to all gunners and fishermen, and there is not a dull page in it from the cover, which is

adorned by the picture of an old sportsman who bears a strong likeness to Grover Cleveland as he appears when hunting ducks, to the last, which has the portrait of a fisherman who wonderfully resembles Joe Jefferson, the veteran actor, whose fondness for rod and reel is as well known as is that of the democratic ex-President for both rod and gun.

The whole book invites sportsmen to seek the fields, woods and trees of the beautiful Southern country to try their luck after game which abound in profusion in various sections reached by the Southern Railway, and he must indeed be an indifferent Nimrod who would not feel his blood run quicker and his nerves thrill after reading some of the pages in this attractive booklet, which says: "The sportsman who desires to visit the South in the hunting season will find that every transportation facility that he can require has been supplied, that every luxury of travel has been provided. He can consult his own inclinations as to the section he desires to visit or the game for which he is in search. He is restricted only in respect to the sections frequented by the game and the dates of the open season." But the book contains tables, the names of sections and the game laws governing them. This "will enable the sportsman to plan a tour so as to cover the locality he wishes to visit and hunt over at the seasons when the sport is at its best. He can likewise select the localities where the game he prefers is most plentiful, and can make all his arrangements in advance through the correspondents whose names are mentioned in the tables. All local preparations can be completed far in advance of the actual visit, and when the time comes to go he can rest assured that the transportation facilities are adequate and need cause him no thought."

"Winter Homes in the South" is the title of another publication from the Southern Railway's passenger department. While not so large as the hunting book, it is none the less attractive and entertaining. In seeking for a place to settle for the winter the tourist or the invalid may make his choice either in the beautiful mountain region of North Carolina or among the pinehills of the same State, or else in one of the numerous resorts to be found from the South Carolina coast to Tennessee. If not there, some of the many resorts in old Georgia, or else in Florida, the land of sunshine and flowers, may attract him. There is a copious supply of pretty pictures in the book, giving views of different places and the scenery surrounding them. A list of hotels and boarding-houses is also provided, so that anyone contemplating a trip can correspond and make arrangements in advance. The book does not, however, confine itself to descriptions of points in the Southern country, but also touches upon the resorts at Nassau, New Providence, Havana, Cuba, and Porto Rico, which may be reached by steamship lines from Miami, Fla.

Copies of these books may be obtained from Mr. S. E. Burgess, traveling passenger agent of the Southern Railway, 317 North Charles street, Baltimore, or from W. H. Tayloe, the general passenger agent of the company at Washington, D. C.

The Southern Railway also announces that it will give very low rates to all points on its lines for students and teachers between December 17 and December 24, with return limit January 8, and will also give low rates to the general public, commencing December 23, with final limit at January 4, this being to cover the Christmas holiday period. Moreover, the company will sell tickets on account of the annual meeting of the Southern Educational Association at Jacksonville, Fla., at one fare for the round trip, plus 25

cents, tickets to be put on sale December 29, with final limit January 2.

### MOBILE & WEST ALABAMA.

#### Coal Line to Reach Mobile, Birmingham, Florence and Other Points.

Mr. J. A. Montgomery, 1021 First National Bank Building, Birmingham, Ala., writes the Manufacturers' Record that the Terry & Gahagan Construction Co., of which he is second vice-president and chief engineer, has contracted to build the projected Mobile & West Alabama Railroad, a line for which has been located from Mobile to Florence, Ala., on 1 per cent. grades compensated for curvature going north and on .6 per cent. grade going south from the coal fields. The line is also to build to and through Birmingham to the northeast on similar grades and alignment. He has been engaged, with a corps of engineers, for a month in surveying from Birmingham towards Tuscaloosa, and thus far has been successful in getting the required grade. Work will begin on the Mobile end soon after the location is finished.

Mr. Montgomery further says that the Mobile & West Alabama Railroad Co. was chartered by the Alabama legislature with liberal and unusual powers to build a low-grade railroad from the coal fields to the Gulf to stimulate the exports of coal, of pig-iron and also of manufactured iron and steel. The authorized capital is \$10,000,000 and the authorized first-mortgage bonds \$20,000,000. There will also be an issue of second-mortgage bonds.

With the proposed grades it is claimed that the company will be able to haul about two and one-half times the live or paying load as other lines with locomotives of equal capacity, and it will, according to the writer, compare favorably with such roads as the Chesapeake & Ohio and Pennsylvania in freight capacity per train. He also says that about 4,500,000 tons of coal are now used in the ports of the Gulf of Mexico and the Caribbean sea, and it is hoped that the proposed road will enable the projectors to command this trade, which, it is claimed, rightfully belongs to the district which will be served by the line.

The Terry & Gahagan Construction Co. has its main office at 79 Wall street, New York. Ed F. Terry is president; Walter H. Gahagan is first vice-president, and L. A. May, treasurer.

In his letter Mr. Montgomery, referring to the report that he was interested in a plan for a railroad from Leeds to Gadsden, Ala., says that the construction company made an offer to the Central of Georgia Railway to finance and build such a line, but nothing came of this proposition. The railroad company now has engineers in the field surveying from the end of its branch road near Leeds to the property of the Cannel Coal Co., owned by the railroad, a distance of about 10 miles, and it is very probable that this branch will be constructed.

### CITY TO BUILD RAILROAD.

#### Little Rock Proposes to Construct Independent Line Northward.

Mr. George R. Brown, secretary of the Board of Trade, Little Rock, Ark., writes the Manufacturers' Record that a committee of that body has concluded arrangements with Col. C. C. Godman of Kansas City to build the proposed railroad northward from Little Rock, opening an entirely new country for the approximate distance of 110 miles, provided the citizens of Little Rock will subscribe \$100,000, and also that other subscriptions of right of way, material, etc., are made along the line. The subscription from Little Rock is to be used to build the first 25 miles, and a mass-meeting is to be soon

held to open subscriptions. At a preliminary meeting those present agreed to subscribe more than \$10,000. Mr. Brown says that the company will not be organized until after the Little Rock subscription is made and Colonel Godman and a local committee have gone over the route.

Concerning the reasons for building this road, Mr. Brown writes that the Board of Trade has been carefully watching the railroad moves in the northern part of Arkansas, and he goes on to say:

"It was observed that the lines were coming into Arkansas from the north and diverting trade to other cities, or the trunk lines were building branches which, while gradually opening the territory, made the trade not the less accessible because of the circuitous routes. The Missouri Pacific has built a line from Newport up White river; the St. Louis & North Arkansas is built from Seligman, Mo., to Leslie, Ark., and more than a year ago announced a contemplated line from Leslie to Little Rock. Meanwhile the Rock Island acquired the Choctaw, including the isolated line between Des Arc and Searcy, and will this month close the gap between Des Arc and Devalls Bluff on its main line in Arkansas east of Little Rock. This move causes the people of Little Rock to believe that the railroad now at Leslie will be extended to Searcy in the near future, which would divert additional trade from the city and result in a cross-country connection between the Rock Island (Choctaw) and the Frisco at Seligman, Mo. The situation is not satisfactory, and requests for information as to intentions, etc., not being answered, Little Rock has decided (instead of giving a bonus) that the city will build an independent road into the new territory. The country in question lies between the St. Louis, Iron Mountain & Southern on the east and the Little Rock & Fort Smith on the south, comprising 30 per cent. of the area of the State of Arkansas, and containing a greater number of square miles than the States of Rhode Island, Connecticut, New Jersey and Delaware. Our business men figure that if their proposed road controls but one-half of the territory it will dominate a domain as large as the State of Massachusetts, and for this reason alone, to say nothing about the marble, zinc, coal and fruit, they can well afford to make the investment."

Mr. Brown further says that Colonel Godman has built, operated and sold five railroads, two of which, the Arkansas Central and the Arkansas Western, are in Arkansas. Parties desiring information should write to the Little Rock Board of Trade or to C. C. Godman, contractor, Coates House, Kansas City, Mo.

### C. & O.'S BIG SANDY LINE.

#### Now Opened to Prestonsburg, Ky., and to Be Completed to Elkhorn City by June Next.

Referring to the press report that the company was making surveys for an extension from Elkhorn City, Ky., into Wise county, Virginia, Mr. F. I. Cabell, engineer of construction, Chesapeake & Ohio Railway, writes from Richmond, Va., to the Manufacturers' Record denying the rumor, but says that the line under construction from Whitehouse, Ky., to Elkhorn City, 77 miles, passes through or in the vicinity of Paintsville in Johnson county, Prestonsburg and Laynesville in Floyd county and Pikeville in Pike county. It has been opened for operation to Paintsville, nine miles above Whitehouse, for the past two months, and has probably just been put in operation as far as Prestonsburg, 23 miles from Whitehouse, Mr. Cabell having named November 14 as the



date for opening the line to that point. In June, 1905, it is expected to have the road ready for operation to Elkhorn City.

From Whitehouse this line follows the Levisa fork for six and one-quarter miles above Whitehouse, where it crosses that stream and follows the left bank to Russell fork. It then follows the left bank of Russell fork to Elkhorn City. It has no connection with other railroads. The maximum grade is .2 of 1 per cent. and the maximum curvature is 8 degrees. The commerce to be supplied by the territory traversed by this line will consist of saw logs, crosssties, staves, grain, tanbark, produce and much coal. M. O. Hankins is division engineer in charge of the work.

#### JASPER & EASTERN.

##### Santa Fe Officials Incorporate to Build From Texas Into Louisiana.

The Jasper & Eastern Railway has filed its charter at Austin, Texas, to build a line from Kirbyville, Texas, to the Sabine river, 17 miles, thence to De Ridder, La., 21 miles, and thence to Alexandria, La., 62 miles further; total 100 miles; also to build branches as follows:

From the main line between De Ridder and the Sabine river to Carson, Calcasieu parish, on the Kansas City Southern Railway, six miles; from the same point on the main line to Bon Ami, Calcasieu parish, three miles; branch from the main line in Vernon parish to Neame, six miles; from same part of main line to Leesville, Vernon parish, 15 miles, and finally a branch from some point on the main line in Vernon parish to connect with the Kansas City, Watkins & Gulf Railway between the towns of Woodworth and Pawnee, a distance of approximately 25 miles.

The incorporators are nearly all officers of the Santa Fe system, including President Ripley. Their names are as follows: E. P. Ripley, Chicago, Ill.; W. E. Maxson, Beaumont, Texas; George Sealy, John Sealy, C. F. W. Felt, T. J. Lee, J. E. Baxter, A. C. Torbert, F. G. Pettibone, J. W. Terry, W. C. Nixon, O. L. Clark and J. P. Jones, Galveston.

The new road will reach lumber regions and will, it is said, be constructed immediately.

#### WESTERN MARYLAND.

##### W. S. Pierce Now President—Extension of Hillen Freight Yards.

Mr. Winslow S. Pierce, chairman of the board of directors of the Western Maryland Railroad Co., has also been elected president of the line. This is the result of the retirement of President Joseph Ramsey, Jr., who declined re-election. Mr. Ramsey, who is president of the Wabash Railroad, was elected president of the Western Maryland about 18 months ago, but owing to the pressure of his duties in connection with the Wabash work around Pittsburg he has been unable to pay much attention to the Western Maryland. Mr. F. S. Landstreet, the vice-president of the Western Maryland, has really been the acting president, supervising the various improvements under way, including the Cherry Run & Cumberland extension.

The Western Maryland has begun condemnation proceedings for the purpose of extending its freight yards at Hillen Station, the object being to secure property to the south of the present yard and bounded by Centre, Bath and Front streets and the east side of Jones' falls.

#### Soft Coal Out of Baltimore.

Concerning the increase in soft-coal shipments from the port of Baltimore, to which reference was made in last week's issue of the Manufacturers' Record, a statement of the amount of coal dumped over the Curtis Bay pier of the Baltimore

& Ohio Railroad during the last fiscal year, figures for which have just been received, will be of interest. This statement shows that during the year ended June 30 last there were handled over the pier 1,245,545 tons of coal. This, of course, includes the shipments of the Consolidation and Fairmont coal companies, which, according to one of their officials, amount to from 800,000 to 1,000,000 per annum. The total shipments for the year show a decrease of about 50,000 tons as compared with the fiscal year ended June 30, 1903, but, as a railroad official remarks, a great deal of coal was probably shipped in 1903 on account of the anthracite strike, yet it will be noted that the shipments almost kept up to that high figure in a normal year, showing increased consumption and also growth of business. All the coal going over this pier is sent outside of the Capes of the Chesapeake.

#### STEEL RAILS FOR MEXICO.

##### Large Increase of Importations as Compared With Last Year.

The Mexican Central Railway Co., according to a report from the City of Mexico, is in the market for 35,000 tons of steel rails to be delivered in 1905, and it is furthermore stated that if pending inquiries result in a deal that the company will place the contract with the Tennessee Coal & Iron Co. before the end of November.

This order will, it is stated, be subject to the new protective tariff of nearly \$10 per ton which went into effect this year to assist the new steel plants in Mexico, but it is stated that notwithstanding the tax there were imported during September 3278 tons of American steel rails, while in September a year ago only 126 tons were imported. From January 1 to September 30, 1904, the importations amounted to 21,867 tons of American steel rails, while in the same period of 1903 there were only 1250 tons imported.

#### Tullahoma to Lynchburg.

Mr. Charles E. Dyer writes from Tullahoma, Tenn., to the Manufacturers' Record that the proposed electric railway in which he is interested will be 14.25 miles long from Tullahoma to Lynchburg, Tenn. It will open up a very rich and productive valley which at present has no outlet for its products. He also says that 22 square miles of Tennessee marble will be made accessible for market, and also large beds of phosphate. The road can be easily constructed, the heaviest grade being 65 feet to the mile, or 1 1/4 per cent. The road would connect with the Nashville, Chattanooga & St. Louis Railway at Tullahoma. W. H. Havron, engineer, made the survey for the line. It is not yet decided when bids will be received for construction.

#### Peach River & Gulf.

Mr. A. W. Miller, president of the Darlington-Miller Lumber Co., writes from Galveston, Texas, to the Manufacturers' Record confirming the report that the Peach River & Gulf Railway proposes to build a line from Willis, Texas, to Beaumont, Texas, about 100 miles. He also says: "We now have in operation 15 miles of road beginning at Timber, Texas, on the Gulf, Colorado & Santa Fe Railway and extending southeast to Midline, Texas, on the Houston, East & West Texas road. This part of the line is fully equipped. Mr. R. W. Luttrell is chief engineer in charge of the construction."

#### Will Build 33 Stations.

The Baltimore & Ohio Railroad Co. has issued an order to build 33 stations at different points along its line, and it is probable that much of this work will be done during this winter. Next spring it is possible that some larger stations, cost-

ing from \$50,000 to \$100,000 each, will be built, as plans are in contemplation. This work is in line with the general betterment of the property which has been in progress during the last seven years, when the company has spent, according to a statement of an official, more than \$100,000,000 in reducing grades and curves and in building freight terminals.

#### DENVER TO MEMPHIS.

##### Charter of a Trunk Line to Be About 1800 Miles Long.

The incorporation of the Denver, Wichita & Memphis Railroad is reported from Guthrie, Okla., to build a line about 1800 miles long from Denver, Col., to Memphis, Tenn., crossing Colorado, Kansas, Oklahoma, Indian Territory and Arkansas. The headquarters of the company are to be at Catoosa, I. T.; Kansas City, Mo.; Oklahoma City, O. T., and New York, and it is also proposed to build a tramway from Catoosa, I. T., 10 miles east. The road will be standard gauge. The incorporators are F. W. Casner of Kansas City, M. J. Harrington of Kansas, S. P. Brundage of St. Louis, F. E. Sutton of Oklahoma City, William B. William of Carmen, A. M. Coffman of Oklahoma City, E. G. Wilson and J. M. Grouth of Catoosa.

#### Atlantic & Birmingham.

Mr. George Dole Wadley, vice-president and general manager of the Atlantic & Birmingham Railway, Waycross, Ga., writes the Manufacturers' Record that the company is spending from \$100,000 to \$150,000 in rebuilding a part of the Brunswick & Birmingham road, which the Atlantic & Birmingham recently purchased. This work includes several changes of line between Nichols and Offerman, the improvement of terminals at Brunswick, Ga., and the building of small shops there.

#### Jefferson to Athens.

The Jefferson & Athens Railway Co., which proposes to build a line 18 miles long from Jefferson to Athens, Ga., has been granted its charter. Among the incorporators are H. W. Bell, John N. Holder, W. H. Smith, R. L. J. Smith, J. E. Randolph, Jr., F. H. Randolph, C. O. Brock, S. J. Smith, S. J. Bell, Frank Roberts, W. T. Stevens and J. C. Turner.

#### Morgantown & Kingwood.

Mr. F. K. Bretz, general manager of the Morgantown & Kingwood Railroad, writes from Morgantown, W. Va., to the Manufacturers' Record that a contract has been let for the construction of about 15 miles of line, which will extend the road from Bretz to Kingwood, W. Va. About two and one-half miles of this work, which will carry the extension as far as Readsville, will, it is expected, be completed by the end of next month.

#### Denver, Enid & Gulf.

Mr. Ed L. Peckham, vice-president and general manager of the Denver, Enid & Gulf Railroad, writes from Enid, O. T., to the Manufacturers' Record saying that the press report stating that the company was about to build an extension from Guthrie, O. T., to Shreveport, La., was an error, as the company does not contemplate doing so, at least at present. It is now pushing work northwest from Enid, as heretofore reported.

#### Seaboard's Directors.

At the annual meeting of the Seaboard Air Line, held in Richmond, Va., the board of directors elected for the ensuing year was as follows: N. S. Meldrum, James A. Blair, Thomas F. Ryan, John B. Dennis, T. Jefferson Coolidge, Jr., S. Davies Warfield, B. F. Yonkum, George W. Watts, James M. Barr, Charles A. Conant, Jas.

H. Dooley, C. Sidney Shepard, Nathaniel Thayer, Ernest Thalman, H. Clay Pierce, Norman B. Ream.

#### Sumter & Northern.

The Sumter & Northern Railroad has been chartered at Columbia, S. C., to build a line about 41 miles long, connecting Sumter, Providence, Mechanicsville, Bishopville, Bull, Stokes Bridge, Hartsville and Alligatorburg, S. C., finally reaching the Seaboard Air Line at McBee, S. C. The incorporators are R. E. Carnes, W. R. Scarborough and J. Ed Stuckey.

#### Railroad Notes.

The Richmond branch of the American Locomotive Co. is building 22 locomotives for the Boston & Maine Railroad.

The Atlantic & North Carolina Railroad has placed an order with the South Baltimore Steel Car & Foundry Co. of Baltimore, Md., for 50 box cars.

A dispatch from Jackson, Miss., says that this year will show between 180 and 200 miles of new railroad completed in that State since January 1 last.

The Chesapeake & Ohio Railway will, it is reported, finish its passenger depot at Charleston, W. Va., in February next. The company is also installing a freight transfer system to convey cars on barges across the river at Charleston.

According to a report from Waycross, Ga., the Atlantic & Birmingham Railroad is painting its passenger locomotives red, with gold lettering, this being in the nature of a return to the bright colors which were years ago conspicuous on the motive power of nearly all railroads.

The Mobile, Jackson & Kansas City Railroad Co. reports through the Interstate Securities Co., 5 Nassau street, New York, that its total revenue for the week ended October 15 was \$12,163.95, as compared with \$10,854.29 for the same week in 1903. These figures include the Gulf & Chicago division. The total revenue since July 1 up to October 15 was \$168,714.92, showing an increase of \$40,593.28 over the same period of 1903.

Exporters' Encyclopedia. Published by Exporters' Encyclopedia Co., 65 Duane street, New York, N. Y. Price \$3.

This work, which has received a hearty endorsement of prominent exporters and steamship companies, contains full and authentic shipping instructions in detail for every country in the world, giving the names and addresses of all the transportation companies, both steam and sail (arranged separately for each country), their ports of call, points for which bills of lading may be obtained, also complete lists of the prominent inland cities and towns, telling where they are located and how they are best reached, and the time to principal places. It explains all that is required to be done as to the arrangement of consular documents, the charges for same, etc. It gives full information regarding the requirements of the different foreign governments and of all the steamship companies. It shows how to pack, mark and ship, how to insure and consign, how to arrange bills of lading, custom-house clearance, consular invoices, "drawbacks," etc. The information relative to the transportation lines has been confirmed by the respective companies and the consular regulations by the various consuls.

Tennessee, Alabama, Mississippi, Georgia and Kentucky are expected to be represented at the convention at Decatur, Ala., November 22 of the Tennessee River Improvement Association.

Mining men of Texas are planning for reforms in the mining laws of the State and for a resurvey of mineral lands.

## MECHANICAL

### Mechanical-Draft Apparatus.

The application of fans to induce draft work has made necessary many changes from the established standards of fan builders in order to avoid difficulties never met with in other lines of fan work, and even hardly anticipated in this. Most of the fans on the market today are built

the housing is outside and at a much lower temperature than the shell, the natural curvature, if any, is inward. Just how much this expansion will amount to can never be predetermined; hence, the greatest care in setting up will often prove of no value when the fan is put into operation, causing the wheel to strike on one or the other of the sides or at certain points.

on this form of construction. It is not always customary to make an extension of the base of the engine as here shown. In some cases an "I" beam grillage is built into the brick foundation, the engine being set on top of the outer ends of these "I" beams and anchored down, which makes practically a complete unit of the entire outfit, as shown by Fig. 1.

Two large units of the character shown

consisting of a synchronous revolving field motor of a capacity rating at 162 kilowatts, which drives by direct coupling a National 550-volt direct-current railway generator with a rating of 150 kilowatts.

The 200-kilowatt alternating-current generator is of the belted type, with two bearings, pulley-slide rails and belt-tightening device, complete in every respect. It is of remarkably substantial construction, and follows very closely the structural design that has become well established in American types of revolving field generators. Its erected weight is 12,850 pounds, and its inherent regulation is well within 6 per cent. at unity power factor. It is run at a speed of 600 revolutions per minute, and, consequently, to deliver a current at 60 cycles, is provided with 12 poles on its revolving field. The usual temperature guarantee, namely, that with an atmosphere temperature of 25 degrees centigrade the temperature of the machine will not rise above 35 degrees centigrade under a continuous 24-hour run at full normal load, was considerably better in that the actual rise under these load conditions was but 22 degrees centigrade above the temperature of the surrounding air; in fact, it has been found to stand a remarkably heavy overload without serious heating, and in regular service it has often been called upon to operate for considerable periods of time at an overload of over 50 per cent.

As to the efficiencies of the generator, they are as follows: 93 per cent. at 25 per cent. overload, 92.5 per cent. at full load, 91.25 per cent. at three-quarter load and 88 per cent. at half load.

The exciter runs at a speed of 1450 revolutions per minute, is normally rated at 12 kilowatts, at 110 volts, and is belt-driven from a pulley placed on the end of the generator shaft. It, too, is remarkably cool in its operation, and there are no evidences of sparking or flashing at the commutator even under conditions of extreme overload.

The motor-generator set runs at a speed of 720 revolutions per minute, and in operation it has been found that the temperature of the synchronous motor does not exceed 25 degrees centigrade above the temperature of the surrounding air, and the direct-current generator does not exceed a rise of 25 degrees centigrade in any part when both machines are working under full-load conditions.

An interesting feature in connection with the motor-generator set rests in the fact that a 22-inch pulley with a 16-inch

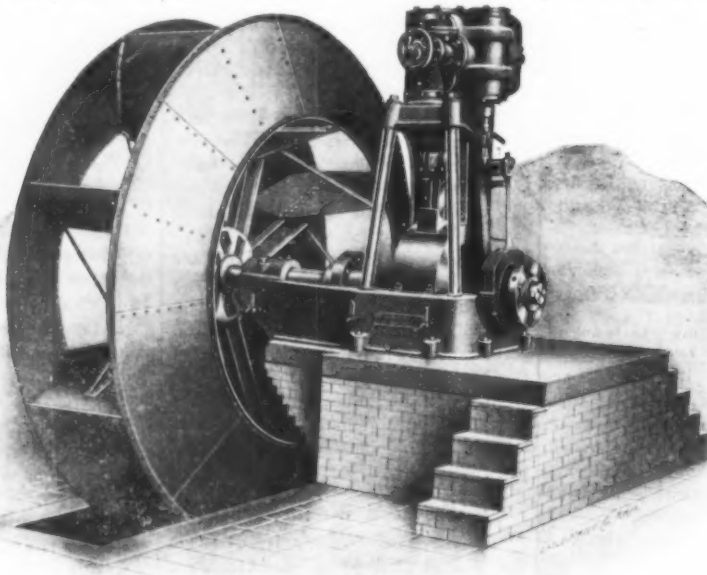


FIG. 1—MECHANICAL-DRAFT APPARATUS.

with two or three spiders, except in the very small sizes. A fan of the standard type usually has a bearing on each side of the fan, making the distance between bearings comparatively short. With this arrangement there is no deflection to the shaft, and the fan wheel is very smooth-running. But when these fans have to be adapted to the handling of hot gases it is positively necessary to keep the bearings removed from the path in which the gases travel, as the bearing would become overheated. This necessitates either having an overhung wheel or placing one bearing outside of the inlet chamber built onto the side of the fan. Unless the bearings were placed very close to

These are points for very serious consideration with anyone who has had experience with this line of work, and the American Blower Co. of Detroit, Mich., has devoted a great deal of time to the improvement of these details. Many wheels of the company's latest type of construction are in operation and giving entire satisfaction. The spider is made up of "I" beams which have about three times the strength of a double set of tee arms as usually employed. In addition to this, every blade is braced with bar-iron braces from the outer rim to the center, which completely overcomes any tendency to twisting. In the side of the fan housing is built a very deep cone

by Fig. 2 have been furnished the Wilkesbarre & Wyoming Valley Traction Co. of Wilkesbarre, Pa. These wheels are encased in a three-quarter steel-plate housing, the wheels being 11 feet in diameter and driven by 12x10 vertical engines. They are intended to furnish induced draft in the power-house in the above railway plant.

### A National Electric Co. Outfit.

Users of electrical machinery should be interested in a description of the Monterey (Cal.) County Gas & Electric Co.'s latest installation of electrical machinery, representing the newest products of the National Electric Co. of Milwaukee, Wis. The plant is illustrated herewith. It constituted an exhibit at the eighth annual convention of the Pacific Coast Electric Transmission Association last June. It proved of double interest to those who

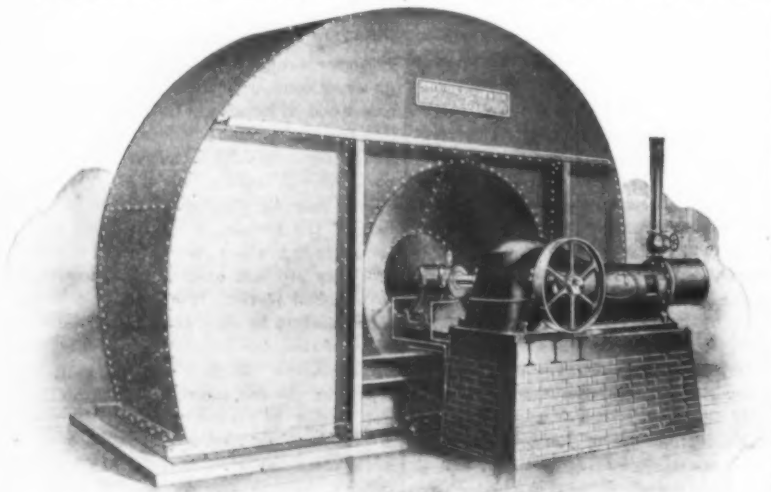


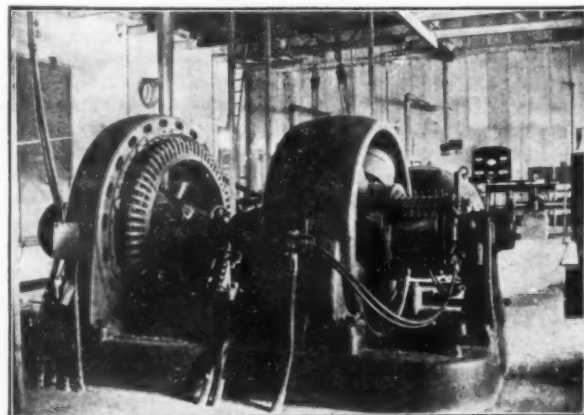
FIG. 2—MECHANICAL-DRAFT APPARATUS.

the center of the fan the overhang will cause deflection, which will work the keys loose and more likely cause the fan wheel to strike the housing. The same is in a large measure true of the two bearings far apart. Increasing the diameter of the shaft is not a relief, as by its own weight it will deflect. Then again, the intense heat within the housing causes it to expand, and as the steel framework of

which reaches in close to the hub. A special arm of very heavy construction is built of the cantilever principle to carry the inner bearing, which is water-jacketed. This is placed at the very apex of the cone. The distance from the end of the apex to the end of the projecting shaft seldom exceeds a foot. An accompanying illustration shows a fan wheel mounted on a shaft, with a direct-coupled engine erected

inspected it because in it was shown a type of machinery that had not been seen in operation heretofore on the coast, and because of its remarkably attractive and finely-finished appearance, its well-proportioned designs, its high efficiency and its being remarkably cool in all its parts while operating, despite the heavy duty imposed upon it. The outfit consists of a 200-kilowatt generator and motor-generator set,

face has been placed on the shaft between the motor and generator, and that this pulley is belted to the flywheel of a 200-horse-power high-speed Buckeye engine. This gives absolute flexibility to the plant in that during the hours of light load both the units of the motor-generator set may be run as generators and in that the motor-generator set affords the link by means of which the railway load may be



A NATIONAL ELECTRIC CO. OUTFIT.

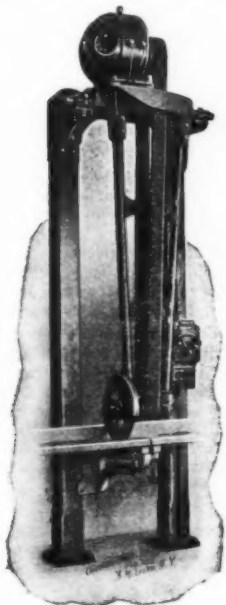


coupled in with the two-phase load, or vice versa. Obviously this enables a day alternating current service to be maintained, in conjunction with the railway load, at minimum efficiency in operation, and though the installation of the motor-generator set may appear anomalous in view of the fact that the current for its operation is taken from generators located within the same premises, it is in reality the rational solution of the problems presented by the local conditions which prevail.

#### Motor-Driven Swing Saw.

A very desirable location for a driving motor was secured in the swing-saw outfit shown in the accompanying illustration by slightly modifying the yoke casting of a standard swing saw built by M. B. Tidey of Newark, N. J.

The motor, as shown, mounted above and attached to the frame, with which it swings, is of the form I semienclosed, shunt-wound type manufactured by the Crocker-Wheeler Company, Ampere, N. J. When run at full speed, 1170 R. P. M., four horse-power is developed by the motor which drives the 18-inch saw through a belt connection at approximately 2500 R. P. M. The motor is mounted so that its center of gravity is one inch forward of the center line of the trunnions on which the frame swings. The result is that when not in use the saw swings back



MOTOR-DRIVEN SWING SAW.

out of the way, thus eliminating the use of the customary counterweight.

The frame, when not in use, swings back, clear of the table, against a stop.

The bench is of hardwood, supported at the ends by cast-iron legs and at the center by a bracket. It is graduated in inches, and has two adjustable stops to facilitate the cutting of lengths in duplicate.

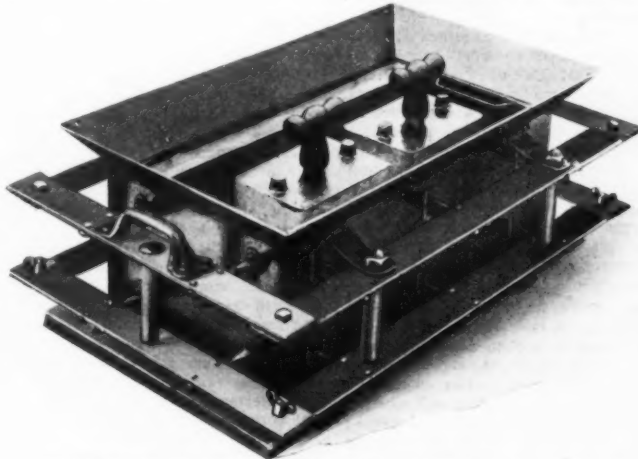
The equipment, controlled by a starter shown mounted on the right-hand upright, at the operator's constant command, makes a very compact and convenient unit.

#### Pettyjohn Hollow-Block Machine.

There is no longer any question as to the desirability of hollow concrete blocks for building purposes. The only question is to select the best machine for manufacturing such blocks. In view of this, an illustration of the Pettyjohn Hollow Concrete Building-Block Machine is presented herewith. This machine is made by Messrs. Pettyjohn Bros. of Terre Haute, Ind.

The advantages of this machine are that the blocks do not have to be carried away from the machine, but are left where they are made until sold. One simply moves

the machine to another spot. It has no heavy and expensive iron pallets; any carpenter can make them after seeing a sample. The blocks are made on the floor instead of several feet above it, making it easy to mix and tamp. There are no springs, levers, cogs or gears to get out of place. Changes of the face design can be made in a few minutes, and any ordinary workman can work it after being shown how.



PETTYJOHN HOLLOW CONCRETE BUILDING-BLOCK MACHINE.

In operating the machine you set it on a pallet. The mixture is shoveled into it, waste being prevented by the hopper. The concrete is then tamped by hand with a tamping rod until the mold box is full and solid. The finishing of the top is done with a cast tamping plate in the shape of the top of the stone. Before the tamping plate is removed the cores are withdrawn and placed on the next pallet. The cores are provided with guides so that they will go to their exact places. As the cores are placed the handles on top are given a slight twist which locks them securely to the pallet. The machine is then lifted off the finished stone, the slides falling apart automatically, and as it is placed on the next pallet the sides go to place again. Rock-faced or such other ornamental designs as may be desired are produced by means of cast plates put against the sides or ends of the mold box and requiring no thumb nuts or the like to hold them to place, so that changes may be made instantly.

All of the rock-face designs are taken from natural-cut stones and produce blocks that are very handsome in appearance.

At a small additional expense the blocks may be molded two inches larger than they are to be in the finished wall. After the stones have partially set this extra two inches is rocked off with a stone-cutter's pitching tool, making every block different and presenting an effect in the wall that is strikingly artistic.

For churches, store fronts and handsome residences there is nothing that will equal it.

By using different-colored sands, crushed white limestone, crushed granite or quartz almost any natural stone may be duplicated so as to deceive even the experienced.

By using different mineral colors the stones may be made of almost any color, either solid, mottled or stratified.

The cost to make the standard-size blocks varies slightly with local conditions, but is usually about eight cents. The Messrs. Pettyjohn are prepared to send further details to any inquirer.

#### A Portable Electric-Power Plant.

As the gasoline engine comes to be better understood by the public, manufacturers naturally develop a broader line of combination, and a new plant recently offered by the Foos Gas Engine Co. of Springfield, Ohio, and of which a consid-

erable number have been sold, is illustrated herewith.

This outfit consists of a 22-horse-power Foos gasoline engine belted to a dynamo of corresponding capacity, and it is entirely self-contained, there being no accessory tanks, batteries or other details. It is mounted on a steel truck, and can be furnished with or without top and curtains. Such a portable plant may be employed to great advantage in operating electric tools,

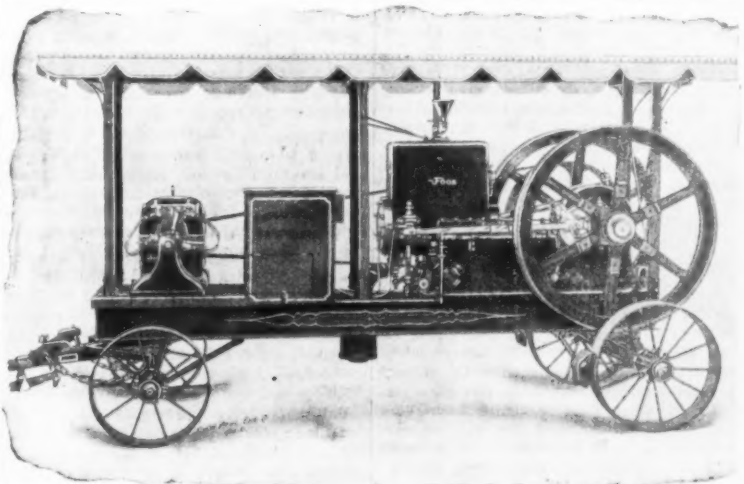
The system of ignition, on which depends on such a large measure the steady running and effective operation of an internal-combustion motor, has been very ingeniously worked out in these engines. The Foos igniter consists of two independent electrodes, the stationary and the revolving, each carrying a steel contact piece. The revolving blade coming in contact with the stationary spring at each revolution emits a large electric spark, while at the same time the wiping action of the two parts removes any deposit of burnt carbon or scale and prevents the incrustation of the contact edges, which is often the cause of so much trouble. This rubbing action of the Foos igniter keeps the points of contact brightly polished under all conditions of operation, and thus insures continuous and even ignition. The blade and spring are in frictional contact for their full width of about half an inch, and this large contact surface, together with the hardness of the special steel used, makes them very durable. Adjustment for wear is made by simply loosening a locknut and moving the stationary electrode screw one-half turn or more toward the revolving electrode, and, when necessary, the blades can be renewed quickly and at trifling cost.

The Foos governor is very simple and compact, is so designed that it may be adjusted to any speed required while in operation, but so placed as to be accessible but still well protected. It is of the centrifugal type, and regulates the supply of coal by cutting out the charges beyond those required to maintain the proper speed. Plain poppet valves, having vertical motion transmitted positively to both valves, are used.

Another distinctive feature of the Foos engine is the system of counterbalancing, in which discs are bolted to the arms of the crank, thus leaving the flywheels in balance, the latter having no weights cast in their rims, and bringing the counterbalancing weights in direct line with the piston, connecting rod, crank and other parts to be balanced.

The material is carefully selected, phosphor-bronze being used in all main bearings, and steel forgings for connecting rod, crank and such parts.

The design of the Foos engine is such as to make all parts unusually accessible,



A PORTABLE ELECTRIC-POWER PLANT.

over rough roads cannot be too strongly emphasized.

The Foos gas and gasoline engines are designed on the well-known four-cycle principle, giving an impulse at alternate revolutions of the flywheels. Nearly all the principal working parts being assembled on one side, the operator is enabled to install the engine to the best advantage and to have free access to the devices for starting and for regulating speed, fuel and air supply and time of ignition.

It being possible to remove either valve, either portion of the igniter, the cylinder head, piston and so on, without disturbing any other part of the engine or any pipe, fittings or connections. The workmanship is of a very high grade, and the facilities of the large Foos factory, which is fully equipped with up-to-date and special tools, are most excellent.

Further information regarding these gas and gasoline engines and portable electric plants will be furnished by the Foos Gas Engine Co. of Springfield, Ohio.

# Construction Department

## TO OUR READERS!

In order to understand and follow up properly the Construction Department items, please bear in mind the following statements:

### EXPLANATORY.

The MANUFACTURERS' RECORD seeks to verify every item reported in its Construction Department by a full investigation and complete correspondence with everyone interested. But it is often impossible to do this before the item must be printed, or else lose its value as news. In such cases the statements are always made as "rumored" or "reported," and not as positive items of news. If our readers will note these points they will see the necessity of the discrimination, and they will avoid accepting as a certainty matters that we explicitly state are "reports" or "rumors" only. We are always glad to have our attention called to any errors that may occur.

\* Means machinery, proposals or supplies are wanted, particulars of which will be found under head of "Machinery, Proposals and Supplies Wanted."

In correspondence relating to matters reported in this paper, it will be of advantage to all concerned if it is stated that the information was gained from the MANUFACTURERS' RECORD.

### ADDRESS FULLY.

To insure prompt delivery of communications about items reported in these columns, the name of one or more incorporators of a newly incorporated enterprise should be shown on the letter addressed to that town, or to the town of the individual sought, as may be shown in the item, as sometimes a communication merely addressed in the corporate or official name of a newly established company or enterprise cannot be delivered by the postmaster. This will help to insure prompt delivery of your communication, although it is inevitable that some failure on the part of the postal authorities to deliver mail to new concerns will occur.

### WRITE DIRECTLY.

It is suggested to advertisers and readers that in communicating with individuals and firms reported in these columns, a letter written specifically about the matter reported is likely to receive quicker and more attention than a mere circular.

## BALTIMORE BUILDING NOTES.

### Business Buildings.

**Baltimore—Warehouse.**—Further details have been obtained concerning warehouse to be erected at northeast corner Lombard and Frederick streets for the Johns Hopkins Hospital trust estate, 211 North Charles street, after plans and specifications by Archer & Allen, architects, Central Savings Bank Building, 3 East Lexington street. Structure to be four stories high with basement, 77.10x106.6 feet; brick with granite and Indiana limestone trimmings; concrete foundation; steel beams and girders; cast-iron columns; slag roofing; granolithic pavement; vault doors; fire-escape; galvanized-iron cornice; metal doors, frames and sashes glazed with wireglass; fire shutters; sanitary plumbing. Heating, elevator, electric wiring, gas and electric fixtures, magnifying, alley pavement, wire guards above cellar and curbing not included in contract. John Cowan, 106 West Madison street; Morrow Bros., 212 Clay street; J. H. Miller, 110 Dover street; Flynn Building & Construction Co., Henry S. Ripel, 7 Clay street, and Henderson & Co., Ltd., 218 West Fayette street, have been selected to estimate on the construction. Estimates to be in November 16. The Paper Mills Co., paper manufacturers, Atlanta, Ga., will occupy the building as a distributing branch.

**Baltimore—Freight shed.**—The Baltimore Steam Packet Co., Pier 10, Light-street wharf, has awarded contract to John Hiltz & Son, builders, 3 Clay street, for the construction of freight shed to be located at the Light-street wharf. Structure to be one story high, 62x140 feet; frame construction.

**Baltimore—Office Building.**—Further details have been obtained concerning office building for the Maryland Life Insurance Co., 410 West Fayette street, to be erected at 8 and 10 South street, after plans and specifications by Parker & Thomas, architects, 612 North Calvert street. Structure to be six stories high with basement, 48x85 feet; marble or limestone exterior; concrete foundation; steel-frame fireproof construction;

electric wiring and fixtures; sanitary plumbing; steam-heating system; two electric elevators; fireproof vaults. It is expected that the plans will soon be ready for distribution among builders for estimates on construction.

**Baltimore—Store Building.**—Dr. J. H. Hartman, 5 West Franklin street, as trustee, has awarded contract to the Russell Construction Co., builders, 17 East Saratoga street, for the construction of store building to be located at 29 East Baltimore street after plans and specifications by Wm. J. Beardsley, architect, 28 West Lexington street. Structure to be two stories high with basement, 12x79.10 feet; Roman brick with terra-cotta and galvanized-iron trimmings; concrete foundation; steel beams; cast-iron columns; slag roofing; galvanized-iron cornice and skylight; prismatic glass; fire shutters; electric wiring and fixtures; sanitary plumbing. Heating system not included in contract. This building previously mentioned.

**Baltimore—Store Building.**—J. Farberman and S. Lyerman, 408 East Pratt street, have awarded contract to M. Zion & Co., builders, 1297 East Madison street, for the construction of store building to be located at 116 Centre Market Space after plans and specifications by H. O. Bailey, architect. Structure to be three stories high, 31x110 feet; brick with stone trimmings; concrete foundation; steel beams; tin roofing; galvanized-iron cornice and skylight; gas fixtures; sanitary plumbing; steam-heating system.

**Baltimore—Stable.**—Greenbaum & Caplan have awarded contract to Albinus Schuck, builder, 3302 East Baltimore street, for the construction of stable to be located at 230 and 232 Forrest street. Structure to be one story high with basement, 38x98 feet; brick with stone trimmings; concrete foundation; slag roofing; cost to be about \$3000.

**Baltimore—Bank Building.**—It is reported that the plans and specifications for the new building for the Farmers and Merchants' National Bank, 301 North Charles street, to be located on the northwest corner South and Lombard streets, will soon be ready for distribution among builders for estimates on construction. Baldwin & Pennington, architects, 311 North Charles street, are preparing the plans.

**Baltimore—Store Building.**—Frank Albert of Robert Taylor & Co., Union Trust Building, Charles and Fayette streets, has commissioned the Woodruff-McLaughlin Company, constructing engineers and architects, 100 East Lexington street, to prepare plans and specifications for and superintend the construction of store building to be located at 421 East Baltimore street. Structure to be three stories high with basement, 25x66 feet; pressed brick with bluestone and granite trimmings; steel beams; concrete foundation; tin roofing; copper cornice; prismatic glass; metal frames and sashes glazed with wireglass; electric wiring and fixtures; sanitary plumbing; steam-heating system; hand elevator.

**Baltimore—Railroad Stations.**—The Baltimore & Ohio Railroad Co., C. S. Sims, general manager, Camden Station, will in the near future award contracts for the construction of 33 passenger stations to be located at different points along its line.

**Baltimore—School Buildings.**—At a meeting of the municipal school board it was decided that in the future architects would be selected by a special commission to prepare plans and specifications for all school buildings that are to be erected from time to time instead of having them prepared by the building inspector's office as heretofore.

**Baltimore—Office Building.**—Further details have been obtained concerning office building for the Maryland Life Insurance Co., 410 West Fayette street, to be erected at 8 and 10 South street, after plans and specifications by Parker & Thomas, architects, 612 North Calvert street. Structure to be six stories high with basement, 48.1x100.8 feet; marble, limestone or white terra-cotta exterior; granite base; concrete foundation; reinforced concrete construction for all floors, beams, girders and roof; slag roofing; fire-escape; copper cornice and skylight; fireproof vaults; vault lights; cast-iron frames and sashes glazed with wireglass; cast-iron stairway; ornamental iron grille work; interior marble work; fireproof throughout. Electric wiring, heating and ventilating and elevators not included in contract. Wells Bros. Co., 344 North Charles street; Wm. Steele & Sons, 17 West Saratoga street; John Waters, 23 East Centre street; Burnham & Wells, Builders' Exchange Building, 2 East Lexington street;

George A. Fuller Co., 203 North street; Murphy Construction Co., 202 West Fayette street; Henry Smith & Sons Co., 116 South Regester street; James Stewart & Co., 319 North Charles street; Woodbury & Leighton, 166 Devonshire street, Boston, Mass., and Charles and Baltimore streets, Baltimore, Md., and A. R. Whitney, Jr., & Co., 135 Broadway, New York, and new Stock Exchange, German street, near South street, Baltimore, Md., have been selected to estimate on the construction. Estimates to be in November 21.

**Baltimore—Apartment-house.**—Further details have been obtained concerning apartment-house for the Walter R. Abell estate, Charles J. Bonaparte, trustee, 216 St. Paul street, to be erected at northwest corner of Charles street and Lafayette avenue, after plans and specifications by Wyatt & Nolting, architects, Builders' Exchange Building, 2 East Lexington street. Structure to be eight stories high with basement, 60x150 feet; brick with granite base and Indiana limestone and terra-cotta trimmings; concrete foundation; steel-frame fireproof construction; reinforced concrete floors; slag roofing; granolithic pavement; marble or tile floors; cast-iron stairway; galvanized-iron cornice and skylight; interior marble work. Heating, electrical work, elevator and dumbwaiter, plumbing, lighting fixtures, kitchen equipment, papering and decorating not included in contract. John Cowan, 106 West Madison street; Charles L. Stockhausen, 414 East Fayette street; Henry Smith & Sons Co., 116 South Regester street; John Hiltz & Son, 3 Clay street; B. F. Bennett, 123 South Howard street; Wells Bros. Co., 244 North Charles street; James Stewart & Co., 319 North Charles street; Wm. Steele & Sons, 17 West Saratoga street, and George A. Fuller Co., 203 North street, have been selected to estimate on the construction. Estimates to be in November 28.

**Baltimore—Hotel.**—Bruno Momeny, 425 East Lexington street, has purchased the property located at northeast corner of Post-office avenue and Water street, and will erect on the site, which is 48x100 feet, a three-story hotel to contain about 32 rooms.

**Baltimore—Store Building.**—Morris Abrahamson, 26 North Exeter street, has awarded contract to Wm. A. Foreman, builder, 2206 York road, for the construction of store building to be located at 702 East Baltimore street. Structure to be three stories high with basement, 22x100 feet; brick with stone trimmings; concrete foundation; steel beams; tin roofing; galvanized-iron cornice; electric wiring and fixtures; sanitary plumbing; heating system; cost to be about \$7000.

**Baltimore—Warehouse.**—Henry White, Baldwin & Frick, agents, 224 North Charles street; Robert A. Taylor, trustee, 8 Builders' Exchange Building, 2 East Lexington street, and Hinkley & Morris, attorneys for Thomas estate, 215 North Charles street, have awarded contract to Wm. Steele & Sons, builders, 17 West Saratoga street, for the construction of warehouse to be located at 13 and 15 West Baltimore street and 8, 10, 12, 14, 16 and 18 West German street after plans and specifications by Wyatt & Nolting, architects, Builders' Exchange Building, 2 East Lexington street. Structure to be six stories high with basement, 40.1 feet on Baltimore street, 118 feet on German street and 204 feet deep; brick with granite base and ornamental terra-cotta trimmings; concrete foundation; mill construction; cast-iron columns; slag roofing; vault lights; marquise glazed with wireglass; metal frames and sashes glazed with wireglass; galvanized-iron skylights; prismatic glass; electric wiring and fixtures; sanitary plumbing; steam-heating system. Elevators and pavements not included in contract. Armstrong, Cator & Co., wholesale millinery, white goods and notions, temporarily located at 106 and 108 Hopkins Place, will occupy the building. This building previously mentioned.

**Baltimore—Warehouse.**—H. P. Rieger of H. P. Rieger & Co., 506 North Paca street, has purchased the property located at 502 and 504 Jasper street and will erect warehouse on the site, which has a frontage of 40 feet.

**Baltimore—Store Buildings.**—The Safe Deposit & Trust Co., 13 South street, as trustee for the Abell estate, has awarded contract to John E. Marshall & Son, builders, 212 North Calvert street, for the construction of store buildings to be located at 220, 222 and 224 East Baltimore street and 217 and 219 East Fayette street after plans and specifications by Charles E. Cassell & Son, architects, 411 North Charles street. Structures to be three stories high with basements, 60x

210 feet; Roman brick with architectural terra-cotta trimmings; concrete foundations; steel beams and girders; cast-iron columns; slag roofing; electric wiring and fixtures; sanitary plumbing; steam-heating system. (The contract for the construction of these buildings was previously reported awarded to Thomas B. Marshall, now deceased.)

**Baltimore—Warehouse.**—Henry D. Dietz, trustee (Baldwin & Frick, agents, 224 North Charles street), will erect warehouse at 41 South Liberty street, after plans and specifications by Tormey & Leach, architects, 325 St. Paul street. Structure to be five stories high with basement, 27.8x86.10 feet; brown brick with granite base and artificial limestone trimmings; concrete foundation; steel beams; cast-iron columns; mill construction; galvanized-iron cornice; vault lights; granolithic pavement; ornamental iron grillework. Electric wiring, elevator, plumbing and heating system not included in contract. Morrow Bros., 212 Clay street; Gustav Stohr, 1334 North Stricker street; John Stack & Sons, 250 West Preston street; Tatterson & Thuman, 214 North Liberty street; Wm. Ferguson & Bro., 214 Clay street; John T. Buckley, 916 Bolton street; John Cowan, 106 West Madison street, and R. H. Frazier & Sons, 220 St. Paul street, have been selected to estimate on the construction. Estimates to be in November 22.

### Manufacturing Buildings and Other Enterprises.

**Baltimore—Molding Factory.**—Furst Bros. & Co., moldings, mirrors and picture-frame manufacturers, 213 West Camden street, has awarded contract to Henry Pierson, builder, 1009 Hanover street, for the construction of factory to be located at northeast corner Stockholm street and Creek alley. Structure to be four stories high, 60x126 feet; brick with stone trimmings; concrete foundation; steel beams; slag roofing; galvanized-iron cornice; fire shutters; fire-escape; elevator.

**Baltimore—Nursery Stock.**—The Spencer Seedless Apple Co. has been incorporated, with an authorized capital stock of \$100,000, for conducting a nursery stock and dealing in land products, by George Blummer and Henry Blummer of Baltimore, Wm. C. Scheu of Colorado, Charles Markell, Jr., 224 St. Paul street, Baltimore, and Emma Dohme.

**Baltimore—Bridge and Dock Construction.** The Wabash Construction Co. has been incorporated, with an authorized capital stock of \$50,000, for constructing and maintaining bridges, wharves, docks and piers, by F. Henry Maisch, 112 East Lexington street; Earle E. Kraft, Charles F. Stein, 215 St. Paul street; J. Vincent Roach, 106 East Lexington street, and Frederick R. Peddicord, 1320 West Lanvale street.

**Baltimore—Printers' Machinery and Supplies.**—The Spencer & Hall Company has been incorporated, with an authorized capital stock of \$25,000, for conducting the business of typefounders and electrotypers and dealing in printers' supplies and bookbinders' and lithographers' machinery, by George P. Bartgis, Samuel M. Hall, 325 North Holliday street; John H. Hall, 325 North Holliday street; Webster L. Spencer, 325 North Holliday street, and Warren H. Shane.

**Baltimore—Belting Factory.**—Edward H. McKeon, president Baltimore Belting Factory, temporarily located at 229 North Holliday street, has awarded contract to Thomas B. Stanfield & Son, builders, 109 Clay street, for the construction of belting factory to be located at 113 and 115 West Lombard street after plans and specifications by Charles B. Keen, architect, 1220 Chestnut street, Philadelphia, Pa. Structure to be four stories high, 45.1x112.3 feet; brick with Indiana limestone trimmings; concrete foundation; mill construction; slag roofing; galvanized-iron cornice; metal frames and sashes glazed with wireglass; vault lights; metal ceilings. Heating system, electric wiring and fixtures and elevator not included in contract. This building will be occupied by the Baltimore Belting Co., 229 North Holliday street, and all machinery required has been contracted for. This building previously mentioned.

**Baltimore—Coffee-roasting Plant.**—The Enterprise Coffee Co., 621 North Calvert street, has awarded contract to the Woodruff-McLaughlin Company, constructing engineer and architect, 100 East Lexington street, for the construction of coffee-roasting plant to be located on South Caroline street, after plans and specifications by Thomas C. Kennedy, architect, 331 North Charles street. Structure to be three stories high, 38.3x62.5 feet; brick with granite base and stone trim-



mings; concrete foundations; steel beams; cast-iron columns; slag roofing; mill construction; metal frames and sashes glazed with wireglass; sanitary plumbing. Sidewalk paving, gaspiping, electric wiring, foundations for boiler, engines, roasting and other machinery and ducts, shafts or chutes for machinery not included in contract. This building previously mentioned.

**Baltimore—Manufacturing Plant.**—It is reported that I. A. Miller, 11 East Saratoga street, is agent for a manufacturing company that is negotiating for a tract of land in South Baltimore for the purpose of establishing on the site a large manufacturing plant, the cost of which, including building and equipment, will be about \$300,000.

#### Subbids Wanted.

Mention of contractors wanting subbids on construction work and material will be found, when published, in the "Machinery Wanted" column on another page under the heading of "Building Equipment and Supplies."

#### ALABAMA.

**Decatur—Real Estate.**—J. E. Penny, Milton Humes, John L. Brock and C. C. Harris have incorporated the Tennessee Valley Land Co., with \$50,000 capital.

**Florida—Electric-light and Power Plant.**—City has granted 20-year franchise to William R. McDuffie to construct and operate an electric-light and power plant.

**Florence—Cotton Mill.**—It is reported that Boston capitalists have purchased from the Florence Railroad & Improvement Co. a site for the establishment of a \$500,000 cotton mill, to be built and operated under the title of the Florence Cotton Mills Co.

**Huntsville—Canning Factory.**—Reports state that Chairman Boyd of the Chamber of Commerce is corresponding with Northern capitalists relative to the establishment of a canning factory.

**Huntsville—Saw-mill.**—Rickey & Presler of Indianapolis, Ind., have purchased from Harry Vance the timber on 150 acres of land 10 miles from Huntsville, and erected saw-mill for its development. James B. Rickey and associates were previously reported as to erect mill.

**Huntsville—Paper-pulp Mill.**—It is reported that W. C. Lovering of Boston, Mass., contemplates establishing a mill for the manufacture of paper pulp from cotton stalks.

**Wellington—Lead Mines.**—It is reported that William M. Reese of Chicago, Ill., representing himself and associates, will develop lead mines two miles from Wellington and build large smelting works to prepare the ores for market, investing about \$100,000 in the initial developments.

#### ARKANSAS.

**Hot Springs—Gold Mine.**—Dr. J. W. Bunch has discovered gold on his property near Hot Springs, and will at once arrange for its development.

**Lamar—Coal-mining.**—Reports state that R. C. Garner and A. B. Hamilton are developing coal properties near Lamar.

**Little Rock—Telephone System.**—Southwestern Telephone & Telegraph Co. has secured franchise to construct underground conduit system.

**Little Rock—Sewerage System.**—City has under consideration the installation of new sewerage system; E. A. Kingsley, city engineer.

**Mena—Slate Quarrying and Manufacturing.**—National Slate & Manufacturing Co. has been organized, with \$500,000 capital, to quarry and manufacture structural and shingle slate, of which the company owns 1000 acres in Polk county. W. H. Mosher of New York is president; A. Q. Nash of Mena, secretary-treasurer, and George H. Steen of St. Louis, Mo., general manager.

**Spadra—Coal-mining.**—Spadra Coal Co. has been incorporated, with \$20,000 capital, to mine coal. L. T. McKee is president; H. H. McKennon, vice-president, and C. H. Langford, secretary-treasurer.

**Texarkana—Grist Mills, etc.**—James T. Trigg, Alma V. Trigg and Dan J. Cavitt have incorporated the Southern Commission Co., with \$10,000 capital, to operate grist mills, elevators, etc.

**Varner—Mercantile.**—W. R. Kirby Co. has been incorporated, with \$20,000 capital. Simon Bloom is president; John Barrelra, vice-president, and William R. Kirby, secretary-treasurer.

**Walnut Ridge—Ice Plant.**—W. R. Lane has definitely decided to erect \$10,000 ice plant reported last week as contemplated, and contract will be let November 15. Plant will be operated as the Crystal Ice Co.

**Yardelle—Mining.**—Incorporated: Belle of

Wichita Mining Co., with \$350,000 capital, by William Ferree, A. R. O'Leary, R. A. Davis and Charles Knauer.

#### FLORIDA.

**De Funiak Springs—Steam Laundry.**—W. L. Adams and W. H. Stubbs contemplate establishing steam laundry.

#### GEORGIA.

**Acworth—Gold-mining.**—W. B. McAdams of Danville, Ky., will erect five-stamp mill at his gold mine.

**Atlanta—Distillery.**—R. G. DeTreville, E. F. Sims and F. O. Sappington have incorporated the South Bend Distilling Co., with \$25,000 capital.

**Atlanta—Water-works Improvement.**—Griffin & Flitts have contract at \$3350 for building proposed coagulating basin.

**Columbus—Steel Bridge.**—Muskogee County Commissioners invite plans and specifications for steel bridge reported last week to be erected over Randle creek, on the Pine Knot Springs road.

**Dalton—Electric-light and Power Plant.**—City has decided to install plant for furnishing light and power to various industries now using gas. Address The Mayor.

**Elberton—Sewerage System.**—City has voted the \$20,000 bond issue previously reported for the construction of sewerage system. Address The Mayor.

**Greensboro—Electric-light Plant.**—City has voted the proposed bond issue for the erection of electric light plant. Address The Mayor.

#### KENTUCKY.

**Frankfort—Electric-light Plant.**—People's Electric Co. has contract to furnish the city with electric lights.

**Lexington—Sewerage System.**—City has voted affirmatively the \$100,000 bond issue previously reported for the construction of sanitary sewerage system; Thomas A. Combs, mayor.

**Louisville—Coal Company.**—Kentucky River Coal Co. has been incorporated, with \$20,000 capital, by A. G. Ronald, J. T. Richards and S. G. Connaughton.

**Macedonia—Grist Mill.**—Wilbert Franklin is erecting steam grist mill.

**Madisonville—Water-works.**—City has voted against the \$50,000 bond issue previously reported for the construction of system of water-works. Address The Mayor.

**Munfordsville—Bridge.**—Hart county has voted against the \$44,000 bond issue reported last week for the construction of bridge across Green river; L. Y. Johnson, county judge.

**Owensboro—Pottery.**—Kentucky Ceramic Association has been organized, with \$25,000 capital, to take over and operate the plant of the Owensboro Ceramic Pottery Co. Alfred Keates will be manager.

**Owensboro—Coal Mine.**—It is reported that C. C. Hatfield is arranging to sink a coal shaft near Owensboro.

**Paducah—Dental Company.**—Paducah Dental Co. has been incorporated, with \$5000 capital, by W. H. Neville, Mrs. M. F. Neville and J. L. Neville.

**Princeton—Water-works.**—City has voted

rousse" street-car fender. Eugene Barousse is president; Ira F. Swain, vice-president, and F. S. Fowler, secretary-treasurer.

**New Orleans—Viaduct.**—City will probably again call for bids for the erection of proposed viaduct over Newton street, for which \$40,000 has been appropriated. Address The Mayor.

**New Orleans—Railroad Safety Device.**—Hughes Railway Safety Co. has incorporated, with \$500,000 capital, to manufacture a safety device for railroads. Robert J. Hughes is president; Ira F. Swain, vice-president, and Frank S. Flower, secretary-treasurer.

**Plain Dealing—Water-works.**—Town contemplates erecting water-works, and desires prices and estimates; H. H. Montgomery, chairman committee.\*

#### MARYLAND.

**Cumberland—Plating Plant.**—Adams Novelty Manufacturing Co. reported incorporated last week to manufacture a patent music clip, will also install plant for plating gold, silver, nickel, brass and bronze, for mechanical drawing, die sinking and model making.

**Sykesville—Electric-light Plant.**—Board of Managers of Springfield Asylum contemplates installing electric-light plant. Dr. I. Thomas Clark is superintendent.

#### MISSISSIPPI.

**Anguilla—Real Estate.**—Knox Sharkey Land Co. has been incorporated, with \$40,000 capital, by Samuel Thompson, Henry W. Held and others.

**Brookville—Mercantile.**—Dotherow Dry Goods Co. has been incorporated, with \$10,000 capital.

**Gulfport—Turpentine and Rosin Plant.**—Chartered: Gulfport Turpentine Co., with \$20,000 capital, to manufacture turpentine and rosin; incorporators, J. F. Payne of Bay St. Louis, Miss.; W. G. Gillilan, A. H. Powell and D. C. Bacon of New Orleans, La.

**Jackson—Mattress and Broom Factory.**—Incorporated: Patton-Black Manufacturing Co., with \$25,000 capital, to manufacture mattresses, brooms, furniture, etc.

**Jackson—Gas Plant.**—C. A. Bonds and associates have secured franchise, for which they were reported last week as having applied, and will at once arrange for the construction of gas plant. C. H. Evans, Rialto Building, Chicago, Ill., is engineer in charge.\*

**Meridian—Gas Plant.**—Reports state that Jacob Pollock, Gregory M. Lues, W. M. Armbricht and J. A. Patterson of Mobile, Ala., have purchased, will improve and operate the plant of the Meridian Gas Co. Plant has a daily capacity of 150,000 cubic feet.

**Mississippi—Timber Lands.**—Dr. J. W. Eddy, George Roberts, R. T. Eddy, B. S. Yost and associates of Shelbyville, Ill., have purchased 2863 acres of delta land at \$45,000, which they will clear and raise alfalfa, corn and cotton.

**Vicksburg—Boiler Plant.**—Reports state that the Eagle Cotton Oil Co. contemplates installing \$12,000 boiler system.

#### MISSOURI.

**Cartersville—Mining.**—Charlotte Mining Co. has been incorporated, with \$10,000 capital, by John Seaton, John C. Seaton, S. S. Winn and others.

**Joplin—Publishing.**—L. G. Hicks, W. L. Butts, J. R. Jones and Joseph Baker have incorporated the Joplin Evening Times Co., with \$10,000 capital.

**Kansas City—Building Company.**—Ed. E. Holmes, Albert E. Holmes and L. E. James have incorporated the Roanoke Building Co., with \$5000 capital.

**Kansas City—Realty Company.**—Incorporated: Holmes-Jones Realty Co., with \$10,000 capital, by L. E. Jones, Ed. E. Holmes and Albert E. Holmes.

**Kansas City—Distilling and Distributing Company.**—Stein-Block Distilling & Distributing Co. has been incorporated, with \$50,000 capital, by Julius Stein, Edward Block and Paul F. S. Bartlett.

**Leeds—Distillery.**—Glasner & Barzen will erect whiskey distillery which will have a daily capacity of 225 bushels of corn and rye. B. B. Joffe will be superintendent.

**Nevada—Reel Company.**—Wm. H. Talbot, E. E. Levens, H. M. Duck and others have incorporated the Wm. H. Talbot Reel Co., with \$40,000 capital.

**Ozark—Telephone System.**—Christian County Telephone Co. will hold meeting January 3, 1905, to consider increasing capital from \$6000 to \$15,000.

**Perryville—Flour Mill.**—Wilkinson Milling Co., reported incorporated last week with \$20,000 capital, is having plans prepared by

## The Rebuilding of Baltimore—How the Daily Bulletin is Covering It.

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Baltimore, Md., May 28, 1904.

Manufacturers' Record Publishing Co.:

Gentlemen—The information furnished by the *Daily Bulletin of the Manufacturers' Record* concerning building plans in Baltimore the writer is pleased to say seems to be full and accurate in every way. The feature of adding the addresses in each notice is especially commendable. I am depending upon the *Daily Bulletin* in locating prospects and following up the same. Thus far it has not failed me in a single instance. The one thing which has surprised me is to find that owners, architects and contractors in some instances are not willing to avail themselves of the free advertisement which your notices afford, and at the same time by using your service secure up-to-date and valuable information regarding improved methods of construction by inviting through the published notices the competition of the general trade. I remain, yours truly,

VOIGTMANN & Co.,

Per Wm. A. Heatt.

**La Grange—Telephone System.**—City has granted seven-year franchise to Mrs. Milam to operate telephone system.

**Savannah—Cold-storage Plant.**—Knickerbocker Ice Co. has let contract for two-story brick building, which will be equipped with the most modern refrigerating devices, electric elevators, etc., and have a cold-storage space of 200,000 cubic feet. R. L. M. Parks is manager.

**Savannah—Fertilizer Factory.**—Reports state that T. S. Heyward & Co. have purchased the Lamar press building, which will be equipped as fertilizer factory.

**Savannah—Marine Railway.**—Kehoe & Sons have let contract to Crandall, Sons & Co., Boston, Mass., for building marine railway. Kehoe & Sons were reported in April last as to build marine railway with a water frontage of about 350 feet; plant to have a capacity of 1200 tons.

**Savannah—Electrical Supplies.**—The Electric Supply Co. will increase capital from \$25,000 to \$37,500.

**Thomasville—Electric-light Plant and Sewerage System.**—City has voted affirmatively the \$35,000 bond issue for the erection of electric-light plant and \$25,000 of bonds for extending sewerage system reported last month. Address The Mayor.

**Valdosta—Furniture Company.**—South Georgia Furniture Co. has been incorporated, with \$2000 capital, and privilege of increasing to \$25,000.

**Watkinsville—Cottonseed-oil Mill and Warehouse.**—Reports state that A. W. Ashford will erect cottonseed-oil mill and warehouse.

affirmatively the \$50,000 bond issue previously reported for the construction of water-works. Address The Mayor.

**Seven Hills—Vehicle-material Factory.**—Carriage Wood Stock Co. has been incorporated, with \$100,000 capital, to manufacture buggy bodies and the woodwork for carriages, etc. F. A. Ames is president and Gale B. Smith, secretary-treasurer.

#### LOUISIANA.

**Jennings—Oil and Gas Wells.**—Sterling Oil Co. has incorporated, with \$40,000 capital, to bore for oil, gas, etc. Richard E. Brooks is president; Edward A. Sterling, vice-president and general manager, and Edwin W. Watts, secretary-treasurer.

**Lake Charles—Mercantile.**—Incorporated: C. V. Jonte Co., Ltd., with \$10,000 capital. Louis J. Bell is president; J. L. Farque, vice-president, and C. V. Jonte, secretary-treasurer.

**Lake Charles—Lumber Mill.**—It is reported that the Midway Lumber Co. has begun the erection of lumber mill to replace one destroyed by fire. A. B. Seale of Beaumont, Texas, is president.

**New Orleans—Real Estate.**—White Realty Co., Ltd., has been incorporated, with \$100,000 capital. William C. Jutte is president, and J. Charles Jung, vice-president.

**New Orleans—Cigar and Tobacco Factory.**—It is reported that the Cortez Tobacco & Cigar Co. of Tampa, Fla., contemplates the establishment of plant at New Orleans.

**New Orleans—Car Fender.**—Barousse Street Car Fender Co. has been incorporated, with \$200,000 capital, to manufacture the "Ba-

the Cornelius Mill Building Co., St. Louis, Mo., for the erection of building 56x84 feet; plant will have a daily capacity of 125 barrels of flour. Machinery has been purchased. Wm. R. Wilkinson, 212 North Main street, St. Louis, Mo., is president.

Springfield—Foundry and Machine Shop.—New Phoenix Foundry & Machine Co., and not the New Phoenix Laundry & Industry Co., is the correct title of company reported incorporated last week with \$10,000 capital.\*

Springfield—Creamery.—Incorporated: Apex Cheese & Butter Co., with \$10,000 capital, by Geo. E. Hart, E. L. Slyfield, H. S. Seultz and others.

St. Louis—Shoe Factory.—Hamilton-Brown Shoe Co. will erect eight-story factory building 98x155 feet at a cost of \$128,000.

St. Louis—Contracting Company.—J. F. Baerveldt Contracting Co. has been incorporated by Jean F. Baerveldt and Bernard Greensfelder, with \$5000 capital.

St. Louis—Construction Company.—E. L. Wagner Construction Co. has been incorporated, with \$30,000 capital, by Adiel Sherwood, Ernest L. Wagner and associates.

#### NORTH CAROLINA.

Charlotte—Water-works Improvements.—Harmon S. Palmer Concrete Building Block Co., Washington, D. C., has contract at \$17,119.55 for the erection of proposed building for water-works improvements; structure to be built of concrete blocks and have slate roof. Plant will have a capacity of 5,000,000 gallons in duplicate, that is, amount put through each of two lines of 20-inch mains.

Gastonia—Cotton Mill.—George A. Gray has incorporated the Gray Manufacturing Co., with himself as president, to build his proposed cotton mill recently reported. The mill will have an equipment of 10,000 ring spindles and 350 looms, with steam-power plant, etc. Construction work will begin next spring. It is understood that contracts have not been awarded for the machinery. The company is capitalized at \$150,000.

Hillsboro—Knitting Mill.—The Bellevue Manufacturing Co., recently reported incorporated with capital stock of \$125,000, will build a knitting mill, not a cotton-spinning mill, as has been reported. Hosiery will be manufactured and dyed. Sheppard Strudwick is president. It is understood that contracts have been awarded.

Lexington—Cotton Mill.—The Nokomis Cotton Mills will add 3000 spindles.

Raleigh—Cotton Mill.—Reference was made recently to the incorporation of the Lincoln Cotton Mill Co., with capital stock of \$125,000. Messrs. John L. White of 76 Montgomery street, Jersey City, N. J.; G. V. Kelly, also of Jersey City, and Edward A. Johnson of Raleigh were the incorporators, and the last named is in charge.

Salisbury—Publishing.—Chartered: Globe Publishing Co., with \$15,000 capital, and privilege of increasing to \$100,000, for the publication of newspaper; incorporators, H. B. Varner, Carl Hammer and others.

Wilmington—Woodworking Plant.—Reports state that Hannah & Co., with Baltimore (Md.) and Philadelphia (Pa.) capitalists, will establish manufacturing plant on site recently purchased.

Winston-Salem—Tag Machines.—G. Maslin Davis, Whitley E. Morton of Winston-Salem and Edgar F. Jones of Greensboro, N. C., have incorporated the Winston Tag Machine Co., with \$15,000 capital, and privilege of increasing to \$150,000, to manufacture tobacco-tag machines.

Winston-Salem—Gas-plant Improvements.—Winston-Salem Gas & Lighting Co. contemplates making improvements to plant.

#### SOUTH CAROLINA.

Creston—Mercantile.—C. C. Kellar and others have incorporated the Creston Mercantile Co.

Darlington—Steam Laundry.—Darlington Steam Laundry Co., reported incorporated last week with \$3000 capital to take over and operate the plant of the Cornet Steam Laundry, contemplates increasing capital to \$5000.\*

Georgetown—Telephone System.—Chartered: Georgetown & Campfield Telephone Co., by M. W. Pyatt and O. B. Skinner.

Greenwood—Construction Company.—F. T. Graham, H. R. Stuart and T. J. Snyder have incorporated the Greenwood Granite & Construction Co. with \$5000 capital.

Manning—Water-works.—The water-works plant previously reported as being contemplated by the city will probably be built by private parties, and city will consider propositions. Address C. R. Sprott.\*

Marion—Sewerage System.—Town will vote December 13 on the issuance of \$25,000 of

bonds for the construction of sewerage system; P. B. Hamer, clerk.

North Augusta—Cotton Mill.—The Davis Cotton Mills and the mill of Walter M. Jackson and associates of Augusta, Ga., separately mentioned lately, are the same enterprises. The equipment given last week was an error. The facts are that the Davis Cotton Mills will erect a 100x200-foot structure, three stories high, with steam-power plant, and install 25,000 spindles and 720 looms for making print cloths; capital stock is \$500,000. Some machinery contracts have been awarded, and contracts for construction will be awarded this month. T. B. Hitchcock & Co. of Columbia, S. C., are preparing the plans and specifications. Chas. Warren Davis is president; Walter M. Jackson, vice-president and treasurer, and W. E. Andrews, secretary, all of Augusta, Ga.

Spartanburg—Textile Mill.—Incorporated: The Jordan Manufacturing Co., with capital stock of \$20,000, for manufacturing cotton and woolen goods; incorporators, S. Vernon Muckenfuss of Spartanburg and G. Edgar Rodgers of Charleston, S. C.

Sumter—Real Estate.—Sumter Real Estate Commercial Co. has been incorporated, with \$10,000 capital, by G. W. Murray and Z. E. Walker.

Williston—Knitting Mill.—It is reported that E. C. Smith of Edgefield, S. C., will build a hosiery knitting mill at Williston.

Winnabow—Extract Company.—Lion Extract Co. has incorporated, with \$500 capital. J. J. Ohear is president, and H. H. Ohear, treasurer.

#### TENNESSEE.

Bristol—Grocery.—Lockett-Reeves Company has been incorporated by W. W. Lockett and others, with \$20,000 capital, to take over the grocery business of W. B. Lockett & Co.

Claiborne—Timber and Coal-land Development.—It is reported that R. C. Ford of Middleboro, Ky., has purchased at \$10,000 a tract of timber and coal land in Claiborne county, and with other capitalists will at once arrange for its development.

Cleveland—Woolen Mill.—The Cleveland Woolen Mills is erecting an additional building, 60x90 feet, two stories high, and will build another structure, 60x230 feet, two stories high. Considerable new machinery will be installed when these buildings are completed.

Cookeville—Water-works, Electric Light Plant and Street Paving.—City will vote December 2 on the issuance of \$25,000 of bonds for the construction of proposed water-works and electric-light plant. Street improvements are also under consideration. Address The Mayor.

Columbia—Tobacco Factory.—C. F. Brittain Tobacco Works is building an addition to factory, and new machinery will be installed for increasing capacity.

Crossville—Coal-land Development.—John A. Shelliton is investigating coal lands (now drilling) with a view to organizing company to open mines.

Franklin—Broom Factory.—Fleming-English Warehouse Co. is erecting broom factory.

Gatlin—Coal-mining.—Westbourne Coal Co. is the correct title of company reported organized last month under Knoxville, Tenn., to develop, in connection with the Southern Coal & Coke Co., with which it is affiliated, coal mines on the Hog Camp branch of the Knoxville, LaFollette & Jellico Railway. Mines will have a daily output of 1000 tons of coal. About \$75,000 will be invested.\*

Irwin—Cotton Company.—Incorporated: The Irwin Leatherman Cotton Co., with capital stock of \$25,000.

Knoxville—Brick Works.—Knoxville Brick Co. will install new and improved machinery for increasing the capacity of its plant at Powell's Station.

Lewisburg—Water-works.—City is conferring with Kirkpatrick & Johnson, Jackson, Miss., relative to installing water-works system.

Memphis—Grocery Company.—Chartered: James Grocery Co., with \$50,000 capital, by W. W. James, Jr., Taylor Malone and others.

Memphis—Electric-light Plant.—City is considering the municipal ownership of electric-light plant. Address The Mayor.

Nashville—Oar Factory.—Reports state that the Chattanooga Boat Oar Co. of Chattanooga, Tenn., is investigating site for the removal of plant for making boat oars to Nashville. C. B. Rowe is manager.

Nashville—Packing-house.—Tennessee Packing & Food Co., recently organized, will expend \$50,000 in remodeling and improving the Nashville Packing-house.

Nashville—Car-door Lock.—Roy Lock Co. has been incorporated, with \$20,000 capital, by Edward H. Roy, Julius C. Lusk, E. C.

Kleeman, David Lowenheim and T. M. Steger, to manufacture and sell a car-door lock invented by Mr. Roy.

Nashville—Water-works Improvement.—Board of Public Works will appropriate \$6000 for extending the Island filter.

Parsons—Phosphate Lands.—Decatur Phosphate Co., previously reported incorporated under Decatur, Tenn., with \$50,000 capital, has purchased from the Beech River Phosphate Co. several thousand acres of phosphate lands in Decatur county at \$250,000, and will at once arrange for developments.

#### TEXAS.

Beaumont—Manufacturing Kimonos.—It is reported that a factory will be established for manufacturing kimonos, gowns, sheets, pillowcases, handkerchiefs, etc., and Martin Weiss is promoting the enterprise.

Dallas—Telephone System.—F. B. McElroy and S. A. Jones have applied for franchise to construct telephone system.

Denison—Oil and Gas Wells.—Incorporated: Denison Oil & Gas Co., by C. D. Kingston, W. G. Terry, J. W. Ousley and associates.

Ferris—Brick Works.—T. J. Weatherford, W. E. Weatherford, J. V. Mutz and associates will organize \$25,000 company to establish brick works.

Frankston—Mercantile.—C. A. Fields and others have incorporated the Mandelstamm Mercantile Co., with \$10,000 capital.

Galveston—Macaroni Factory.—Reports state that the Chamber of Commerce is negotiating with Eastern manufacturers relative to the establishment of a macaroni and noodle factory.

Galveston—Corn-drier.—Harris S. Cotten & Co. will erect corn-drier at elevator B; structure to be 50 feet high and 25 feet square, have a daily capacity of 5000 bushels and cost \$15,000.

Gladeview—Cotton Gin.—Lawrence & O'Byrne will rebuild cotton gin and girt mill reported burned last month at a loss of \$2500.

Glendale—Orchard Company.—G. N. Johnson, J. H. Purdue of Glendale, Texas; N. J. Jordan, J. H. York, M. M. York of St. Louis, Mo., and associates have incorporated the Glendale Orchard Co., with \$50,000 capital.

Grand Saline—Mercantile.—Incorporated: Salt City Co., with \$50,000 capital, by J. E. Persons and others.

Greenville—Cotton Compress, Elevator, etc. Planters' Compress & Elevator Co. has been incorporated, with \$20,000 capital, to operate an established cotton compress, and will erect grain elevator and warehouse; incorporators, Y. O. McAdams, E. W. Harrison, W. C. Kerr and associates.

Hillsboro—Cotton Mill.—Incorporated: The Hillsboro Cotton Mills, with capital stock of \$80,000, to take over and continue an established plant of 2000 spindles and 80 looms; J. O. Moore, T. T. Tomlinson, A. B. Smith and others, incorporators.

Houston—Sand-brick Works.—Houston White Brick Co., previously reported incorporated with \$80,000 capital, has secured site on which to erect plant for the manufacture of a white brick from sand. Ben Dolson, Jr., of Galveston, Texas, is president; J. M. Rockwell of Houston, vice-president, and Frank C. Jones of Houston, secretary-treasurer.

Sherman—Cattle Company.—Chickasha Cattle Co. has been incorporated, with \$20,000 capital, by N. B. Birge, Jr., T. U. Cole, C. A. Jennings and J. F. Holt.

Temple—Grain Storage Tanks.—Werkhiser-Polk Mill Co., reported last week as increasing capital, will erect two steel storage tanks with a capacity of 50,000 bushels each.

#### VIRGINIA.

Cape Charles—Electric-light Plant.—Heckle & Kellogg have applied for franchise to erect and operate electric-light plant.

Fredricksburg—Box Factory.—M. J. Taylor and G. Frank Timberlake have organized the Eagle Paper Box Co. to manufacture all kinds of paper boxes.

Harrisonburg—Lumber Company.—Incorporated: Stiegel Lumber Corporation, with \$50,000 capital. John C. Stiegel is president, and C. B. Williamson, secretary-treasurer.

Petersburg—Chemical and Fertilizer Works. Atlantic Chemical Corporation has incorporated, with \$5000 capital, to manufacture and sell chemicals and fertilizers. Wm. McEl Smith of Norfolk, Va., is president and treasurer, and Charles E. Williams of Portsmouth is vice-president and secretary.

Newport News—Cemetery Company.—Newport News Cemetery Co. contemplates increasing capital from \$37,500 to \$50,000.

Norfolk—Real Estate.—Hardy Development

Co. has incorporated, with \$10,000 capital. T. M. Bellamy is president; Bernard McNally, vice-president, and Lycurgus Berkley, secretary-treasurer.

Petersburg—Steamboat Company.—Incorporated: Petersburg & Norfolk Navigation Co., with \$5000 capital, to operate a line of steamboats between Petersburg and Norfolk. T. Paulson Parsons is president; Jesse M. Newcombe, Jr., vice-president, and William F. Bowden, secretary-treasurer.

Portsmouth—Lumber Company.—Barnes Timber & Logging Corporation has been incorporated, with an authorized capital of \$10,000. Erastus H. Barnes of New York, N. Y., is president, and Frank E. Rogers, secretary-treasurer.

Portsmouth—Mercantile.—Southern Tinning & Plumbing Co. has been incorporated, with an authorized capital of \$40,000, and W. J. Shepherd of Norfolk, Va., president; C. E. West of Portsmouth, vice-president, and A. L. Cherry of Norfolk, Va., secretary-treasurer. Three-story building 30x90 feet will be erected.\*

Portsmouth—Real Estate.—West Park View Corporation, previously reported incorporated under Portsmouth, Va., has a capital stock of \$10,000, and will at once arrange for the development of suburban property; about \$30,000 will be expended. Address, 32-33 Lowenberg Building, Norfolk, Va.

Richmond—Electric-light Plant.—City contemplates employing an electrical expert to investigate and report on the location and cost of an electric-light plant. Address The Mayor.

South Hill—Furniture Factory.—It is reported that a furniture factory, a woodworking plant and a wagon factory will be located, and J. H. Ogburn can probably give information.

Suffolk—Gas Plant.—City has granted franchise to the Home Acetylene Gas Co. of Lynchburg, Va., to erect and operate gas plant.

Willis Wharf—Oysters, Fish, etc.—Incorporated: W. W. Ballard Co., with Warren A. Ballard of Willis Wharf, president; John T. White of Norfolk, Va., vice-president, and William W. Ballard of Willis Wharf, secretary-treasurer; capital \$30,000.

#### WEST VIRGINIA.

Bluefield—Gas Plant.—Flat Top Gas Co., has been incorporated with \$100,000 capital to manufacture artificial gas for light and fuel; incorporators, George W. Atkinson, H. A. Ritz, John M. Anderson, F. J. Brown, F. M. Peters, J. M. Sanders and A. J. Hearn.

Charleston—Oil and Gas Wells.—Incorporated: Consolidated Natural Gas Co., with \$250,000 capital, by Benjamin Kittling, F. O. Tracy, B. L. Hawkins, Myron Hall and F. J. Zinderman of Buffalo, W. Va., to drill for oil and gas.

Eckman—Bottling Works.—T. W. Moorehead of Eckman, E. L. Lee of Bluefield, W. Va.; R. M. Garrett, Jr., of Keystone, W. Va., and associates have incorporated the Eckman Bottling Works, to manufacture and bottle carbonic beverages; capital \$20,000.

Grafton—Coal Mines, etc.—The Interstate Drilling Co. has been incorporated by L. F. McGrath, G. T. Beckwith, T. E. Sproul, Arthur Cobb of Cleveland, Ohio, and F. M. Sproul of Huron, Ohio, to drill for oil, gas and coal; capital \$10,000. Messrs. Beckwith and McGrath were previously reported as having purchased and to develop the property of the Sandy Creek Coal Co.

Martinsburg—Gas Plant.—Dispatches state that Lawrence E. Lee of New Jersey, representing a syndicate, has purchased the plant of the Martinsburg Gas Co., which will be greatly enlarged.

Morgantown—Lumber Mill, etc.—Morg. R. Oliver, A. C. Oliver of Morgantown, Wm. H. Brown, Fred A. White and John E. Foster of Atlantic Highlands, N. J., have incorporated the Highland Lumber Co. with \$25,000 capital to develop timber lands, manufacture lumber, etc.

Moundsville—Coal Mines and Coke Ovens.—Belton Coal & Coke Co. has been incorporated, with \$400,000 capital, by Dr. J. C. McClenathan, Robert Norris, D. P. Patterson, Charles Welhe, W. L. Neff and associates.

Mt. Carmel (P. O. Carmel)—Coal Mines and Coke Ovens.—Mt. Carmel Coal & Coke Co. has been incorporated, with \$100,000 capital, by William N. Brown of Charleston, W. Va.; George E. Burner, Joseph Gould, Frederick W. McGrady, William Kilfer of Mt. Carmel, Pa., and associates.

New Martinsville—Drug Factory.—Magnolia Medicine Co. has been incorporated, with \$25,000 capital, by M. V. Ober, M. D. Adley, George M. Ober, I. D. Morgan and associates, to manufacture proprietary medicines.



Webster Springs—Grocery.—Incorporated: Addison Grocery Co., with \$25,000 capital, by A. B. Elbon, J. W. Wooddell, J. M. Hoover, J. P. White and associates.

Wheeling—Furniture Company.—Incorporated: Cooley-Bentz Company (established), with \$75,000 capital, by W. R. Cooley, Herman Bentz, Chas. L. Kettler, Wm. Heinlein and Henry A. Nolte.

#### INDIAN TERRITORY.

Bristow—Oil and Gas Wells.—D. W. Gathrell, W. L. Cheatham, L. D. Groom, Charles M. Crane and J. M. Longfellow have incorporated the Bristow Oil & Gas Co., with \$400,000 capital.

Vinita—Printing Plant.—Leader Printing Co., reported incorporated last week with \$10,000 capital, has let contract to H. M. Smith for the erection of two-story building, 25x80 feet, to cost \$1500.

#### OKLAHOMA TERRITORY.

Cleveland—Oil Wells.—Manhattan Oil Co. of Cleveland and Bartlesville, I. T., has been incorporated with \$100,000 capital by Eugene F. Blaise of Bartlesville, Albert E. Hall of New York, N. Y., and others.

Guthrie—Cement Plant.—Dispatches state a plant for the manufacture of cement from gypsum will be established at Darrow at a cost of \$75,000, and C. M. Barnes of Guthrie can give information.

Guthrie—Electric Light Plant.—Guthrie Electric Light & Power Co., reported incorporated last week to succeed local electric-light company, has secured franchise applied for.

Oklahoma City—Plowshare Factory.—Reversible Self Sharpening Plowshare Co., reported last week as having secured site for factory, will erect building 40x80 feet, and will have a daily output of 75,000 plowshares. About \$30,000 will be invested.

#### BURNED.

Baltimore, Md.—Hat factory of J. S. Strouse & Co., Lexington and Pulaski streets; loss \$16,000.

Between, Ga.—James Baker's cotton gin; loss \$850.

Chattanooga, Tenn.—R. W. Thomas & Bro.'s warehouse; loss \$6000.

Dovesville, S. C.—Dr. A. T. Baird's sawmill, grist mill and cotton gin; loss \$3000.

Elizabeth City, N. C.—Baxter ice plant, owned by the Crystal Ice & Coal Co.

Forsyth, Ga.—Southern Cotton Oil Co.'s plant.

Homochitto, Miss.—S. B. Duyan's cotton gin; loss \$3500.

Kaplan, La.—C. T. Broussard's cotton gin; loss \$5000.

Knoxville, Tenn.—Woodruff Hardware Co.'s building; loss \$29,000.

Knoxville, Tenn.—Lawson McGhee Library Building; loss \$25,000; Fred Richmond, assistant secretary.

La Porte, Texas.—Capt. L. F. Allen's residence; loss \$8000.

Madisonville, Ky.—The Reinecke Coal Mining Co.'s machine and blacksmith shop; loss \$2000.

Magnolia, Ky.—Magnolia Flouring Mills, R. A. Carr, proprietor; loss \$3000.

Savannah, Ga.—Warehouses of Seaboard Air Line Railway Co.; loss \$30,000. W. W. Gwathmey, Jr., Portsmouth, Va., is chief engineer.

Sardis, Miss.—Panola county's courthouse. Address County Judge.

Society Hill, S. C.—John T. Rogers' cotton gin.

Sour Lake, Texas.—Silver Queen Hotel.

Stamford, Texas.—J. Hammond's cotton gin.

Thomasville, Tenn.—Lieberman, Loveman & O'Brien's sawmill.

Vossburg, Miss.—Warehouses of M. H. Turner and W. B. Morris.

Wesson, Miss.—Wesson Milling & Improvement Co.'s cotton gin; loss \$5000.

Wynnewood, I. T.—Moore & Rollow's cotton gin.

#### BUILDING NOTES.

\* Means machinery, proposals or supplies are wanted, particulars of which will be found under head of "Machinery, Proposals and Supplies Wanted."

Alexandria, La.—Hotel.—H. H. Hurnett, Woodworth, La., wants plans, specifications and bids on the erection of two-story brick or frame hotel building, 60x80 feet, to cost from \$2000 to \$8000.

Atlanta, Ga.—Office Building.—Nashville, Chattanooga & St. Louis Railway will erect one-story brick and steel building, 30x40 feet, on Peachtree street to be used as ticket office; cost \$10,000; H. McDonald, chief engineer, Nashville, Tenn.

Atlanta, Ga.—Church.—Donaldson & Pearson have contract at \$38,268 for the erection of proposed edifice for All Saints' Episcopal Church after plans by Morgan & Dillon.

Bessemer, Ala.—Warehouse.—Jay & Wentworth have contract for warehouse reported last week as being erected by J. C. Curry & Co. W. E. Burns prepared the plans.

Camden, S. C.—Courthouse.—Kershaw county will erect \$25,000 courthouse. Address County Judge.

Charlotte, N. C.—Dwelling.—W. T. McKay has let contract to J. Y. Orders for the erection of his proposed residence.

Charlotte, N. C.—Residence.—Wheeler & Runge have prepared plans for dwelling for C. E. Stenerson, and bids for the erection will be received until November 19.

Clarksburg, W. Va.—Hotel.—Walter F. Ran, Edgar W. Davis, Cal Rooster and W. H. Dalton have incorporated the Ran-Davis Hotel Co. with \$25,000.

Columbia, Miss.—Courthouse.—Marion county has voted the \$50,000 bond issue previously reported for the erection of courthouse. L. C. Wellborn is clerk.

Dallas, Texas—Telephone Building.—Chief Engineer Southwestern Telegraph & Telephone Co., Telephone Building, Dallas, will open bids November 23 for the erection of two-story brick building at corner of Bryan street and Haskell avenue. Plans and specifications on file at engineer's office. Certified check for \$500 must accompany each bid. Usual rights reserved.

Dallas, Texas—Armory.—Texas National Guard contemplates erecting two-story armory, 75x150 feet, to cost about \$10,000. Address E. H. Roach, major, Third Infantry, of the building committee.

Dallas, Texas—Telephone Building.—L. R. Wright has contract to erect Oak Cliff building for the Southwestern Telegraph & Telephone Co. reported last week. H. A. Overbeck prepared the plans.

Danville, Va.—College Building.—Roanoke College of Danville will erect additional building, 60x140 feet, and R. E. Hatton is engineer in charge.\*

Dothan, Ala.—Courthouse.—M. T. Lewman & Co. of Demopolis, Ala., have contract to erect courthouse for Houston county previously reported.

El Dorado, Ark.—School Building.—J. M. Sheppard, chairman, and W. J. Pinson, secretary, will open bids January 1 for the erection of two-story school building. Plans and specifications on file at office of chairman and secretary, El Dorado, Ark., or L. M. Weathers, Memphis, Tenn. Usual rights reserved.

Epora, Miss.—School Building.—City contemplates erecting school building at a cost of about \$10,000, but plans and specifications will not be asked for several months; J. G. Felton, mayor.

Fort Worth, Texas—Store Building.—Ed Otto has purchased site on which to erect brick and stone store building.

Hartsville, Tenn.—Courthouse.—Bids will be received until November 26 for the erection of Trousdale county's proposed brick courthouse, 61x75 feet, and plans and specifications can be seen at office of Wheeler & Runge, architects, Charlotte, N. C.; also at office of A. C. Welch, secretary Trousdale county commissioners, Hartsville. Usual rights reserved.

Hattiesburg, Miss.—Hotel.—Plans are being prepared for the hotel previously reported to be erected by J. T. Jones, president Gulf & Ship Island Railroad Co., Buffalo, N. Y.; structure to be four stories, 125x132 feet, and contain 125 rooms. Power plant, laundry and steam-heating machinery will be installed.

Helena, O. T.—School Building.—Woods county will erect \$40,000 county high school. Address County Judge.

Hopkinsville, Ky.—Engine-house.—Forbes Manufacturing Co. has contract at \$6105.50 for the erection of proposed two-story brick building, 44x100 feet, for the fire department.

Houston, Texas—Office Building.—Charles H. Page, Jr., Austin, Texas, has been engaged to prepare plans and specifications for seven-story office building previously reported to be erected by J. M. Dorrance, 210 Main street.

Houston, Texas—Temple.—Beth Israel congregation contemplates the erection of synagogue. Address J. Keller of the building committee.

Jackson, Miss.—Bank Building.—Capital National Bank has had plans prepared by R. H. Hunt, Chattanooga, Tenn., for the erection of proposed brick and stone bank building.

Knoxville, Tenn.—Hospital.—Dr. W. S. Nash, chairman building committee, will open bids November 21 for the erection of proposed hospital building for the Tennessee Medical College in accordance with plans and specifications on file in office of Leon Beaver, architect; structure to be of brick and stone, slate roof and tile floor, and cost \$20,000.

Lexington, Ky.—Auditorium.—City has voted the \$20,000 bond issue reported last month for the erection of auditorium; Thos. A. Combs, mayor.

Little Rock, Ark.—Church.—Plans by John W. Whitehead of Owensboro, Ky., and George R. Mann of Little Rock, Ark., have been accepted for proposed \$30,000 edifice for the Christian Church.

Macon, Ga.—Dwelling.—J. J. Black Lumber Co. has contract to erect proposed two-story residence for Mills McNeel.

Madison, Ala.—Dwelling.—Ross & Tuttle, New Decatur, Ala., have contract to erect two-story residence for Frank G. Heltzler reported last week.

Memphis, Tenn.—Club Building.—Business Men's Club has purchased building at 13-15 Monroe street, which will be remodeled and improved.

Nashville, Tenn.—Church.—Lockeland Baptist Church contemplates erecting edifice. Address The Pastor.

Nashville, Tenn.—School Buildings.—Thompson, Gibel & Asmus, architects, 72-74 Cole Building, Nashville, will open bids December 5 for remodeling four buildings and other work at the "Arsenal," Columbia, Tenn., for the Columbia Military School trustees. Drawings and specifications can be examined at the Arsenal or at the architects' office or by express on receipt of certified check for \$25. Usual rights reserved.

New Orleans, La.—Hotel.—Urbana Gonzales, proprietor Hotel Pasaje, Havana, Cuba, states there is no truth in the report previously mentioned that he will build hotel at New Orleans.

New Orleans, La.—Warehouse.—Albert Mackie Grocery Co., Ltd., will receive bids until November 16 for the erection of three-story brick and steel warehouse previously reported.

New Orleans, La.—Marine Barracks and Officers' Quarters.—Bids will be received until November 30 at headquarters United States Marine Corps, quartermaster's office, Washington, D. C., for the construction of marine barracks and officers' quarters at naval station, New Orleans, La. Plans and specifications may be obtained at quartermaster's office, Washington, D. C., or from Rathbone E. Du Buys, architect, 421 Carondelet street, New Orleans, La. Usual rights reserved; F. L. Denny, colonel, quartermaster, United States Marine Corps.

Newport, Ark.—Depot.—F. Bussey of St. Louis, Mo., has contract to erect two-story brick depot at a cost of \$15,000 for the Missouri Pacific Railway, previously reported.

Norfolk, Va.—Apartment-house.—E. L. Myers has contract to erect proposed building in Ghent for the Holland apartment-house.

Oakland, Md.—Courthouse and Jail.—Garrett county contemplates erecting courthouse and jail. Address County Judge.

Owensboro, Ky.—Apartment-house.—Plans have been prepared for a three-story brick addition to Kenyon flats. H. K. Cole is manager.

Purvis, Miss.—Courthouse.—Board of Supervisors of Lamar county have engaged P. H. Weathers, Jackson, Miss., to prepare plans and specifications for \$50,000 courthouse previously reported to be erected.

Roland Park, Md.—Apartment-house.—The Roland Park Co. is contemplating the construction of a three-story apartment-house, 60x200 feet, after plans and specifications by Wyatt & Nolting, architects, Builders' Exchange Building, 2 East Lexington street, Baltimore, Md.

San Antonio, Texas—Dwelling.—Max Reich will erect two-story brick residence at a cost of \$8000.

Savannah, Ga.—Dwelling.—W. W. Osborne has purchased site at White Bluff on which to erect residence.

Savannah, Ga.—Wharf.—James B. Quinn, lieutenant-colonel corps of engineers, United States engineer office, Savannah, Ga., will open bids December 16 for building a coaling wharf in Savannah harbor, Georgia. Specifications, blank forms and all available information furnished on application.

St. George's, S. C.—Bank Building.—Bank of St. George's has purchased site and is having plans prepared for the erection of bank building.

St. Louis, Mo.—Business Building.—Morgens Realty Co. has purchased site and will erect six-story fireproof building at a cost of \$45,000.

Stuart, Va.—Jail.—B. F. Smith Fireproof Construction Co., Washington, D. C., has contract at \$6500 for the erection of jail building previously reported.

Temple, Texas—Church.—Flume, Foreman & Rex of Austin, Texas, have contract at \$9000 for the erection of proposed stone edifice for the Episcopal church.

Tuscaloosa, Ala.—Dwelling.—George A. Searcy has had plans prepared by Wm. E. Spink, \$12-\$13 Guarantee Building, Birmingham, Ala., for the erection of two-story brick residence, 63x70 feet, and costing \$12,000.

Venus, Texas—Church.—Bids will be received until November 16 at the First National Bank of Venus for the erection of frame church. Plans on file at bank and at the office of M. L. Waller, architect, Fort Worth, Texas.

Vicksburg, Miss.—Business Building.—Vincent Lavechia has purchased site on which to erect brick business building.

Vicksburg, Miss.—Business Block.—Messrs. Helgason & Co. are having plans prepared for the erection of three-story brick business block.

#### RAILROAD CONSTRUCTION.

##### Railways.

Alexandria, Va.—It is reported that there is a movement under way with ample capital to build another electric railway from Alexandria to Washington, D. C.

Ansted, W. Va.—A report from Newport News says that W. N. Page of Ansted, chief engineer of the Deepwater Railway; E. W. Knight of Charleston, W. Va., and William J. Payne were in conference there, presumably concerning plans to make Newport News the eastern terminal of the Deepwater and Tidewater railways.

Augusta, Ga.—The Charleston & Western Carolina Railway is reported to have purchased eight acres of land near Greenwood, S. C., to build a freight-yard. A. H. Porter is engineer of roadway at Augusta. The Seaboard Air Line is also reported to be interested.

Augusta, Ga.—Officials of the proposed Augusta & Elberton Railroad are reported as saying that contracts for the line will be given out soon. Engineers are now at work preparing plans and completing surveys. Bruce Young is president.

Bainbridge, Ga.—Mr. W. M. Legg, general manager Georgia, Florida & Alabama Railway, informs the Manufacturers' Record that the company has in contemplation some construction which may reach about 150 miles. This would apparently tend to confirm the recent press report that the line might be extended to Atlanta. A report from Atlanta says that the extension may be via Richland and Columbus, Ga., or it may also include Lumpkin. Another route is near Springdale and up the Chattahoochee river valley to Columbus. The road is now built as far as Curthbert, Ga., from which point the extension would probably be made.

Baltimore, Md.—The Western Maryland Railroad proposes to extend its freight-yards at Hillen Station. H. G. Clark is manager; J. W. Galbreath, principal assistant engineer.

Beaumont, Texas.—Mr. G. W. Meeker, president and general manager of the Beaumont, Sour Lake & Western Railway, writes the Manufacturers' Record that the company will make two or three surveys immediately after the Christmas holidays with the purpose of beginning construction at least by early spring on an extension northwest for probably 125 miles.

Beaumont, Texas.—E. B. Mentz is reported as saying that the Gulf, Mentz & Lake Charles Railroad has located its proposed route, and that a branch will be run to Orange, Texas. Extensive yards and docks are to be constructed at Sabine Pass. Isadore Newman of New Orleans and Burkett & Barnes of Houston, Texas, are said to be interested, besides people in Galveston.

Birmingham, Ala.—The Mobile & West Alabama Railroad will, it is reported, be built by the Terry & Gahagan Construction Co., 73 Wall street, New York, of which Edward F. Terry is president; Walter H. Gahagan, first vice-president, and L. A. May, treasurer. The line is to extend from Mobile to Florence, Ala., with connection to Birmingham and possibly to Huntsville. Col. J. A. Montgomery, Room 1021 First National Bank Building, Birmingham, Ala., is second vice president and chief engineer. He writes the Manufacturers' Record saying that the line is now located from Mobile to Florence on 1 per cent. grades, compensated by curvature, going north, and on .5 of 1 per cent. grade going south from the coal fields. It is to be built to and through Birmingham to the northeast on similar grades and alignment. For a month he has been surveying

between Birmingham and Tuscaloosa, and so far has succeeded in securing the required grades. Work will begin at the Mobile end in a short time after the location is completed. The authorized capital of the railroad is \$10,000,000, and the authorized first mortgage bond issue \$20,000,000.

Birmingham, Ala.—Mr. J. A. Montgomery, second vice-president and chief engineer of the Terry & Gahagan Construction Co., 925-926 First National Bank Building, writes the Manufacturers' Record concerning the report that he was interested in the proposition to build a railroad from Leeds to Gadsden, Ala. He says that the company made a proposition to the Central of Georgia Railway to finance and build such a line, but nothing came of it. The railroad company is now surveying from the end of its branch road near Leeds to the property of the Tunnel Coal Co. (owned by them), about 10 miles. It is probable that the branch will be constructed. Major J. F. Hanson, president of the railroad, at Macon, Ga., can give information.

Bonne Terre, Mo.—The Mississippi River & Bonne Terre Railway has, it is reported, opened the Hoffman branch for business from Bonne Terre to Owl creek, 6.5 miles.

Bristol, Tenn.—Mr. J. Bewley, one of the incorporators of the proposed Virginia & Southeastern Railway, which is allied with the existing Virginia & Southwestern Railway, is reported as saying that engineers are in the field locating the line for the proposed road from Clinchport to Tom's Creek, Va. D. D. Hull, counsel for the company, is also reported as saying that the line will be built between those points.

Bristol, Va.—George L. Carter, president of the South & Western Railway, and who is also interested in the Clinchfield Corporation, is reported to be assembling laborers and grading outfits at Clinchport, Scott county, Virginia, where work has begun on the proposed railroad extension to St. Paul, Va. An erroneous report said that this work was being done for the Virginia & Southwestern Railroad, lately incorporated, and which proposes to build in the same region. A report from Johnson City, Tenn., says that the South & Western has begun clearing the old roadbed of the partially-constructed "Three Cs" Railroad, and is preparing to push construction there as soon as the curves above Unaka Springs are revised.

Cape Girardeau, Mo.—The Cape Girardeau & Eastern Railway is reported to have completed 10 miles of line from Cape Girardeau to Jackson, Mo., and this has been put in operation. A. R. Ponder is chief engineer. The line is projected to Chester, Ill.

Cedartown, Ga.—Mr. L. B. Parsons, superintendent of the Atlanta & Birmingham Air Line Railway (Seaboard system), informs the Manufacturers' Record that he knows of no plan to build a line from Alexandria, Ala., to connect with his road.

Chicago, Ill.—Mr. A. S. Baldwin, engineer of construction Yazoo & Mississippi Valley Railroad (Illinois Central system), writes the Manufacturers' Record that an extension has been authorized from Mattson to Roundaway, Miss., three miles. It touches the southern end of the State Farm. J. D. Hayden will have charge of the work, and bids will be opened in a week or 10 days.

Conway, S. C.—Construction of the new line for the Conway Coast & Western Railway is reported to be progressing satisfactorily. The line is to be from Conway to Marion and thence to Sumter, S. C. It will also go to Southport, N. C. F. A. Burroughs is president.

Corpus Christi, Texas.—An official of the St. Louis, Brownsville & Mexico Railway is reported as saying that there are now 3000 teams employed on the extension from Robstown to Bay City, 144 miles, and that Johnston Bros., the contractors, will, it is expected, complete the work for operation before the end of next year, the entire distance being already covered by contracts.

Cumberland, Md.—The Keyser, Burlington & Petersburg Electric Railroad Co., which proposes to build a line from Keyser, W. Va., via Burlington, in that State, to Petersburg, W. Va., about 40 miles, is reported to have secured 33 miles of right of way, and it is said that the remainder will soon be acquired. The incorporators are Archibald C. Willson, Abraham P. Gross, Thomas R. Palmer, John S. Siebert, B. W. Wright and Urner G. Carl of Cumberland.

Darien, Ga.—The Darien & Western Railway is reported to have built an extension from Darien Junction to Brothers Mill, eight miles.

Des Moines, Iowa.—Mr. F. M. Hubbell of F. M. Hubbell, Son & Co., brokers, writes the Manufacturers' Record that he is not in any way interested in extending the Gulf & Inter-

state Railroad from Beaumont to Dallas, Texas, and has no such plans.

Enid, O. T.—Mr. Ed L. Peckham, vice-president and general manager of the Denver, Enid & Gulf Railroad, writes the Manufacturers' Record denying the press report that the company was about to build an extension from Guthrie, O. T., to Shreveport, La. He says that such a line is not contemplated, at least for the present. The company is, however, pushing its work to the northwest from Enid.

Fairford, Ala.—The Tombigbee Valley Railroad is building an extension of 12 miles northward and expects to complete it next month. It will reach a point about one mile east of Healing Springs, and the terminus will be known as Healing Springs Station.

Fairmont, W. Va.—The Fairmont & Clarksburg Electric Railroad Co. has, it is reported, concluded to extend its line soon from Middleton to Clarksburg, W. Va.

Fort Wayne, Ind.—Samuel L. Nelson of Fort Wayne, Ind.; Wm. B. McKinley of Champaign, Ill.; George F. Duncan and Ed. Woodman of Portland, Maine, are, according to a report from Oklahoma City, O. T., interested in a proposed electric railway south of that place, presumably the line to connect Oklahoma City, Norman, Lexington and Sulphur Springs. Mr. Nelson is receiver and general manager of the Fort Wayne & Southwestern Traction Co., and Mr. McKinley is president.

Galveston, Texas.—It is reported that construction will soon begin on the Jasper & Eastern Railroad, to be built from Kirbyville, Texas, on the Gulf, Beaumont & Kansas City road, to De Ridder, La., on the Kansas City Southern Railroad, and thence to Alexandria, La., about 83 miles. Branches to be built as follows: Carson, La., 6 miles; Bon Ami, La., 3 miles; Vernon, La., 6 miles; Leesville, La., 15 miles; connection with Kansas City, Watkins & Gulf Railway, 25 miles. The incorporators are W. C. Nixon of Galveston, general manager of the Santa Fe lines in Texas; J. W. Terry, J. P. Jones, O. L. Clark, F. G. Pettibone, A. C. Torbett, J. E. Baxter, T. J. Lee, C. F. W. Felt, John Sealy and George Sealy, all of Galveston. E. P. Ripley, president of the Santa Fe system at Chicago, Ill., is said to be at the head of the enterprise.

Greensboro, N. C.—The Alamance Supply Railway Co. has been organized, with J. W. Menefee of Greensboro, president, to build the line of electric railway projected to connect Burlington, Graham, Haw River, Swepsonville and River Falls. A meeting is to be held November 19 to perfect plans.

Guthrie, O. T.—The Denver, Wichita & Memphis Railway Co., capital \$1,000,000, has, it is reported, been chartered to build a line 1800 miles long from Denver, Col., through Kansas, Oklahoma, Indian Territory and Arkansas into Tennessee at an estimated cost of \$54,000,000. Among the incorporators are S. P. Brundage of St. Louis, Mo., and F. W. Casner and M. Harrington of Kansas City, Mo.; F. E. Sutton and A. M. Coffman of Oklahoma City, O. T.; Wm. B. Williams of Carmen, O. T., and E. G. Wilson and J. M. Grouth of Catoosa, I. T. It is also proposed to build a tramway 10 miles long east from Catoosa, I. T.

Jacksonville, Fla.—The Ellaville, Westlake & Jennings Railroad is building an extension south of Ellaville, Fla., and it is expected to construct eight or ten miles of line before the end of December.

Jefferson, Ga.—The Jefferson & Athens Railway Co. has been chartered to build a line from Jefferson to Athens, about 18 miles. The incorporators are H. W. Bell and others, as heretofore reported.

Kansas City, Mo.—President R. K. Kelley of the El Paso, Mountain Park & St. Louis Railroad Co., lately incorporated, writes the Manufacturers' Record that the new company is successor to the El Paso, Mountain Park & Oklahoma Central Railroad. Full particulars of construction will soon be announced.

Kansas City, Mo.—The Kansas City, Mexico & Orient Railway is reported to have let contracts for 52 miles of line from Wichita, Kan., toward Kansas City. It is also reported that the line has been opened for business from Wichita southwest. Furthermore, that in Mexico the company is preparing to lay track west of Minaca, having graded 70 kilometers of line, which is now waiting for the rails.

Knoxville, Tenn.—Hodges & Mims, contractors, have completed their work on the Knoxville, LaFollette & Jellico Railroad, which covered some heavy work at Black Oak Ridge and grading the local yards. The firm, which has headquarters in Atlanta, is reported to be figuring on a big contract in Alabama.

Knoxville, Tenn.—W. J. Oliver & Co. of Knoxville are reported to have been awarded

a contract by the Illinois Central Railroad at Wickliffe, Ky. Contract requires the handling of about 1,500,000 cubic yards of earth.

Laurens, S. C.—N. B. Dial, president of the Enterprise Bank and also of the Ware's Shoals Cotton Mills Co., is reported as saying that the branch railroad, four miles long, connecting the mills at Ware's Shoals with the Southern Railway has been put in operation.

Lexington, Ky.—The Bluegrass Consolidated Traction Co. has, it is reported, about closed negotiations to finance construction for the extension to Versailles. Y. Alexander is president, and P. Barnhard is superintendent.

Little Rock, Ark.—The Board of Trade has appointed a committee to formulate plans to build a line of railroad about 25 miles long northward from Little Rock and to confer with Col. C. C. Godman of Sterling, Mo., who is in the city, on the proposition.

Live Oak, Fla.—President Thomas Dowling of the Live Oak & Perry Railroad informs the Manufacturers' Record that the company has in contemplation for construction about 45 miles of line. The present line is 22 miles long from Live Oak southwest into Lafayette county, and the proposed extension is to Perry, in Taylor county, and thence to the mouth of the Aucilla river.

Longview, Texas.—F. T. Rembert, secretary and treasurer Texas, Sabine Valley & Northwestern Railway, is quoted as saying that by December 15 miles of the extension towards San Augustine will be graded.

Louisville, Ky.—Concerning the report that the Louisville & Nashville Railroad would build an extension of the Atlanta, Knoxville & Northern to Maryville, Tenn.; also that a line might be built from a point in Georgia to Chattanooga, an official informs the Manufacturers' Record that he knows of no such plans on the part of the company.

Morgantown, W. Va.—Mr. F. K. Bretz, general manager of the Morgantown & Kingwood Railroad Co., writes the Manufacturers' Record that a contract has been let to build about 15 miles of line, which will extend the road from Bretz, W. Va., to Kingwood, W. Va., and that about two and one-half miles of this from Bretz to Reidsville will, it is expected, be completed within six weeks.

Nacogdoches, Texas.—The Nacogdoches Southeastern Railway, now operating 10 miles of line, will, it is reported, soon build 15 or 20 miles more.

Nacogdoches, Texas.—According to a report from Beaumont, J. D. Garrison of Nacogdoches, who is chief engineer of the proposed Alexandria, Bayou Macon & Greenville Railway, is seeking a bonus from the business men of Beaumont provided that the line will go to that city.

Nashville, Tenn.—Construction is reported to begin on the Tennessee Central's Ozone extension, four miles long, W. J. Oliver & Co. of Knoxville being the contractors. The branch is to reach the property of the Fall Creek Colliery, which leased the Tennessee Coal & Lumber Co.

New Orleans, La.—The Southern Pacific Railway is reported to be obtaining rights of way on the river front near Baton Rouge, and will probably build extensions. E. B. Cushing is general superintendent at New Orleans. A report from Baton Rouge says that engineers for the Southern Pacific are making surveys, and that the extension will probably be from Lafayette, La., via Port Allen to Baton Rouge.

New York, N. Y.—G. O. Etheridge, representing New York capitalists, according to a report from Gainesville, Ga., is investigating the route for the proposed Atlanta & Carolina Railway, an electric project, to connect Atlanta, Ga., with Anderson, S. C., by a line about 150 miles long.

New York, N. Y.—It is reported that the Westinghouse Electric & Manufacturing Co. is preparing plans and estimates for an interurban railway between Dallas and McKinney, Texas; also that Pfeizer, Walker & Co., 8 Broad street, New York, are organizing a syndicate to finance the line.

Oklahoma City, O. T.—President F. N. Finney of the Missouri, Kansas & Oklahoma Railroad (M. K. & T. system) informs the Manufacturers' Record that there is no truth whatever in the report that an extension will be built from Oklahoma City southwest, or that a contract has been let to McCabe & Steen for a line from Oklahoma City to Wichita Falls, Texas.

Richmond, Va.—Mr. F. I. Cabell, engineer of construction, Chesapeake & Ohio Railway, writes the Manufacturers' Record saying that the company is not making any surveys for an extension from Elkhorn City into Wise county, Virginia, but that the line now under construction from Whitehouse, Ky.,

to Elkhorn City, Ky., 77 miles, will be on November 14 put in operation as far as Prestonsburg, Ky., 23 miles from Whitehouse. It is expected to have the line ready for operation to Elkhorn City in June next. M. O. Hankins is division engineer in charge.

Richmond, Va.—W. C. Whitner, chief engineer of the Virginia Passenger & Power Co., is reported to be working on a plan to build an electric railway connecting Concord, Charlotte and Gastonia, N. C. M. M. Martin, general counsel of the Virginia Passenger & Power Co., is also said to be interested, besides W. S. Forbes, also of Richmond. A charter granted in 1899 for the City, Suburban & Electric Co. of Charlotte is to be used. Those lately owning it were P. M. Brown, Walter S. Alexander, J. H. Weddington, Hugh W. Harris, M. P. Pegram, D. P. Hutchison, Dr. C. A. Misenheimer and the estate of J. M. Morrow at Charlotte.

Roanoke, Va.—The Jaeger & Southern branch of the Norfolk & Western Railway, contract for which was lately reported given to W. J. Oliver & Co. of Knoxville, Tenn., will, it is stated, reach a total length (including line from Ritter to Jacobs Fork, with spurs to coke ovens) of about 57 miles.

Savannah, Ga.—Concerning the report that the Central of Georgia Railway is surveying and would probably build a line from Green's Cut to Louisville, Ga., and other points, Mr. H. M. Steele, chief engineer, informs the Manufacturers' Record that the line is only preliminary.

St. Louis, Mo.—The report that the Missouri, Kansas & Texas Railway would enlarge its yards at Cleburne, Texas, is denied by an official in a letter to the Manufacturers' Record.

St. Louis, Mo.—It is reported that negotiations are in progress between representatives of the Missouri Pacific Railway and business men of Oklahoma City for an extension there, possibly from Wagoner, I. T., or else from Kiowa, Kan., via Dover and Kingfisher. H. Rohwer is chief engineer at St. Louis.

St. Louis, Mo.—It is reported that five miles of rails have been laid out of Antoine, Ark., on the proposed Fort Smith & Gurdon Railway of the Missouri Pacific system, and that three miles have been laid on the same line at Caddo Gap.

Sumter, S. C.—The Sumter & Northern Railroad Co. has been chartered to build a line from Sumter via Bishopville to McBee, on the Seaboard Air Line. The incorporators are R. E. Carnes, W. R. Scarborough and J. Ed. Stucky. The line will be 41 miles long.

Tullahoma, Tenn.—Mr. Charles E. Dyer writes the Manufacturers' Record that the proposed electric railway from Tullahoma to Lynchburg will be 14.25 miles long, with the heaviest grade 65 feet to the mile, or 1/4 per cent. W. H. Havron made the survey.

Tulsa, I. T.—The Kansas City, Tulsa & Southwestern Railroad is reported to have amended its charter for an extension from Talala, I. T., to Chetopa, Kan. Another report says that the company has been incorporated to build a line from Talala, in the northern part of the Cherokee Nation, to Wichita Falls, Texas, connecting there with the Texas & Pacific Railway. The Missouri Pacific is said to be interested. The route will be from Chetopa, Kan., via Talala, Bartlesville, Tulsa, Mounds and Shawnee. The officers are J. Forsythe, president; C. W. Brown, vice-president; W. H. Hendren, general manager; C. B. Lynch, secretary; E. C. Reynolds, treasurer; Walker & Talley, general counsel.

Tyler, Texas.—A dispatch from Lufkin, Texas, says it is reported there that the St. Louis Southwestern has let a contract to build a 40-mile extension from Monterey, Texas, towards Newton, Texas. M. L. Lynch is chief engineer at Tyler.

Tyler, Texas.—Mr. M. L. Lynch, chief engineer of the St. Louis Southwestern Railway, informs the Manufacturers' Record that the company contemplates surveys towards making a further extension of the Lufkin line, which was recently extended about four miles.

Waycross, Ga.—Mr. George Dole Wadley, vice-president and general manager of the Atlantic & Birmingham Railway, writes the Manufacturers' Record that the company is now spending from \$100,000 to \$150,000 in rebuilding a portion of the Brunswick & Birmingham Railroad recently purchased. The work includes several changes of line between Nichols and Offerman, Ga., the improvement of terminals at Brunswick, Ga., and the building of small shops at that point.

Wilmington, N. C.—Reported that the Atlantic Coast Line will extend the Jacksonville & Southwestern Railway from Newberry, Fla., to Perry, Fla., 52 miles. E. B. Pleasant is chief engineer.



Wilmington, N. C.—Concerning the report that the Atlantic Coast Line would build a connecting link between the Georgia Railroad and the Macon, Dublin & Savannah Railroad, an official of the company informs the Manufacturers' Record that he is not advised of any proposition to build such a line.

#### Street Railways.

Americus, Ga.—The American Gas & Electric Co. of Providence, R. I., represented by S. N. Blake, has, it is reported, applied to the city council for a franchise to build an electric plant and four miles of street railway.

Bartow, Fla.—C. A. Boswell of Bartow and Col. C. A. Denman, president of the Peninsular Telephone Co., are reported to be working on a plan to build a street railway between Tampa and Plant City, Fla. The plan involves the proposed purchase of the dummy line now in operation near Tampa, and to in time convert it into an electric railway.

Dallas, Texas.—The Metropolitan Street Railway Co. proposes to rebuild the San Jacinto street line. J. W. Blake is president.

Lexington, Ky.—The street-railway company will, it is reported, build a line on East Maxwell street, a survey having been made.

Meridian, Miss.—The Meridian Light & Railway Co. has, it is reported, received five carloads of 70-pound steel rails, and will begin relaying its tracks at a cost of about \$100,000. J. A. Gibson is general manager.

Siloam Springs, Ark.—The Siloam Springs Electric Railroad, Power & Improvement Co. has been organized with a capital of \$500,000.

Wheeling, W. Va.—The Wheeling & Western Traction Co. has opened its extension from Pasco to Barton, four miles.

#### MACHINERY, PROPOSALS AND SUPPLIES WANTED.

Manufacturers and others in need of machinery of any kind are requested to consult our advertising columns, and if they cannot find just what they wish, if they will send us particulars as to the kind of machinery needed we will make their wants known free of cost, and in this way secure the attention of machinery manufacturers throughout the country. The Manufacturers' Record has received during the week the following particulars as to machinery that is wanted.

Boiler.—See "Water-works."

Boiler.—See "Engine and Boiler."

Boilers.—See "Mining Equipment."

Boilers.—See "Engines and Boilers."

Boilers.—See "Water-works."

Boiler Specialties.—Lancaster Peerless Emery Wheel Co., Lancaster, Pa., wants addresses of manufacturers of automatic damper regulators for high-pressure boilers.

Boiler Specialties.—See "Heater."

Engine and Boiler.—Gibbs Machinery Co., 804 West Gervais street, Columbia, S. C., wants a double-cylinder mounted vertical engine with vertical boiler combined, to be used in connection with a merry-go-round.

Brass Condenser Tubes.—Board of Public Works, Nashville, Tenn., will open bids December 8 for furnishing f. o. b. Nashville, Tenn., 740 brass tubes for condenser; tubes to be one inch outside diameter, nine feet nine and one-half inches long; thickness of tube to be No. 12 Brown & Sharpe gauge; also 2500 paper ferrules, one inch inside diameter, one and one-quarter inches outside diameter and two and one-half inches long, for setting tubes in condenser. Usual rights reserved.

Brush Manufacturers.—A. H. Burchard, Waco, Texas, wants to correspond with manufacturers relative to making an electric hair brush containing galvanic batteries in back of brush and teeth of metal set in rubber base.

Building Material.—Prices on material for building 60x140 feet for Roanoke College of Danville, Danville, Va., will be wanted. R. E. Hatton is engineer in charge.

Building Material.—Kenneth McDonald & J. F. Shebley, corner 4th and Main streets, Louisville, Ky., will shortly be in the market for building material.

Building Materials.—New Phoenix Foundry & Machine Co., corner Water street and Benton avenue, Springfield, Mo., wants prices on building materials.

Building Materials.—Westbourne Coal Co., Gatlin, Tenn., is in the market for building materials for about 125 miners' houses.

Building Material.—Newton Manufacturing Co., Newton, Miss., wants prices on building material.

Carroussals.—See "Merry-Go-Rounds."

Chair Machinery.—Gem Furniture Co., Chattanooga, Tenn., will probably be in the market for machinery for making chairs.

Concrete-block Machinery.—Hollman Cement & Stone Construction Co., Springfield, Mo., wants prices on machinery for making cement blocks.

Construction Work.—Bids will be received until December 1 at Room No. 9, City Hall, Richmond, Va., for foundation, brick walls and buildings in connection with gasholder under contract for Richmond City Gas Works. Plans and specifications may be seen at Room 9 and at office of Robert W. Hunt & Co., engineers, No. 66 Broadway, New York, and Colorado Building, Washington, D. C., and may be obtained upon payment of \$5. Usual rights reserved; W. P. Knowles, superintendent.

Cotton Waste.—Northrop Lubricating Oil Co., 316 North Main street, St. Louis, Mo., wants to correspond with manufacturers of cotton waste, white and colored, with a view to purchasing in carload lots.

Damper Regulators.—See "Boiler Specialties."

Electrical Equipment.—See "Railway Equipment."

Electrical Equipment.—See "Mining Equipment."

Electrical Equipment.—Black Hawk Electric Co., Davenport, Iowa, wants prices on cedar poles, electrical supplies, transmission wire, etc.

etta, Ga., is in the market for flywheel 12-foot diameter by 20-inch face.

Foundries.—See "Flywheel."

Foundry Equipment.—W. J. Hatcher, Johnston, S. C., wants second-hand I-angle iron-forming rolls to bend 2x2x1/4 angles.

Gas Plant.—See "Electric-light Plant."

Gas-plant Equipment.—C. A. Bonds, Jackson, Miss., is in the market for equipment for gas plant.

Grist-mill Machinery.—O. G. Norment, care Vicksburg Cotton Oil Co., Vicksburg, Miss., wants addresses of manufacturers of machinery for making rolled oats.

Hardware.—T. R. Ward & Son, Greensboro, Ala., are in the market for barbed wire and wire nails in car lots.

Heater.—John Davis Company, 54 Washington street, Boston, Mass., wants a second-hand 1000-horse-power heater in first-class condition.

Heating Apparatus.—W. L. Shelton, 24th and Lawn streets, Kansas City, Mo., wants information regarding steam-heating apparatus for four-story building.

Heating Apparatus.—Prices on steam heat for Roanoke College of Danville, Danville, Va., will be wanted. R. E. Hatton is engineer in charge.

Ice Plant.—H. J. Jennings & Co., Water Valley, Miss., are in the market for an 8 or 10-ton ice plant complete.

Laundry Equipment.—Darlington Steam Laundry Co., Darlington, S. C., wants second-hand body ironer and seam dampener.

Lumber.—See "Electrical Equipment."

Machine Tools.—See "Foundry Equipment."

## The Rebuilding of Baltimore—How the Daily Bulletin is Covering It.

### Would Not Be Without It.

WARREN BROTHERS COMPANY,  
Successors to E. B. Warren Company,  
1005 Linden Ave., Baltimore, Md.  
Boston: 33 Federal Street. New York: Postal Telegraph Building.  
Washington: 27th, Cor. H., N. W.  
Warren's Bitulithic Pavement, Red Structural and Roofing Slate, Asphalt and Coal-Tar Products, Paving and Roofing Materials, etc., Paving, Concrete, Artificial Stone, Roofing, Waterproofing, etc.  
Baltimore, Md., May 27, 1904.

Manufacturers' Record Publishing Co.:

Gentlemen—It is with pleasure that I express my opinion of your *Daily Bulletin*. I think it is the only one, of many reports, in which a busy man can put any dependence. I would not be without it for anything. This office subscribes for all the building papers, but if you see it in the *Bulletin* it is so. This cannot be said of any other journal of its kind.  
Yours truly, WARREN BROTHERS COMPANY,  
P. B. Wright.

Electrical Equipment.—New Phoenix Foundry & Machine Co., Water street and Benton avenue, Springfield, Mo., wants prices on electrical equipment.

Electric Brush.—See "Brush Manufacturers."

Electric-light Plant.—Board of Public Works, San Antonio, Texas, will receive bids until November 26 for lighting the city for five years. Electricity and gas are called for in the specifications. Contractors have choice of bidding on 500 electric arc lamps or on 255 electric arcs and 500 incandescent mantle lamps, or on either number of the electric arcs, or the gas lamps as separate items. Bond of \$30,000 is required.

Engines.—See "Mining Equipment."

Engine and Boiler.—American Hosiery Mills, Kernersville, N. C., wants a 12 or 15-horse-power portable engine and boiler on wheels; traction engine preferred.

Engine Builders.—See "Flywheel."

Engines and Boilers.—New Phoenix Foundry & Machine Co., Water street and Benton avenue, Springfield, Mo., wants prices on engines and boilers.

Fans.—See "Mining Equipment."

Filter Plant.—W. W. Momyer, recorder, Muskogee, I. T., will open bids November 22 for furnishing equipment and installing a mechanical filter plant of three units of 500,000 gallons each daily capacity. General forms of specifications and instructions to bidders may be obtained from Burns & McDonnell, engineers, 509 Dwight Building, Kansas City, Mo. Certified check for \$500 must accompany each bid. Usual rights reserved. (See "Water-works.")

Flywheel.—Glover Machine Works, Mari-

Metallie Furniture.—Board of supervisors of Monroe county will open bids December 5 at the courthouse, Aberdeen, Miss., for the erection of one and one-half sections of metallie furniture or metal bookshells in the record room of the chancery clerk of Monroe county. Dimensions of furniture and other information may be had on application to C. P. Smith, chancery clerk, Aberdeen, where a sample of the work contemplated may also be seen. Usual rights reserved.

Mill Supplies.—New Phoenix Foundry & Machine Co., Water street and Benton avenue, Springfield, Mo., wants prices on mill supplies.

Merchandise.—Co-operative Wholesale Exchange, Morgantown, W. Va., will be in the market for general line of merchandise, especially holiday goods.

Merry-Go-Rounds.—L. S. Morrow Company, Rion, S. C., is in the market for steam or gasoline riding galleries or merry-go-rounds.

Mining Equipment.—Westbourne Coal Co., Gatlin, Tenn., is in the market for tiphouse equipment, boilers, fans, engines and complete electrical haulage, nine cars, scales, T rails, 12 to 40 pounds; drums, wire rope and other necessary equipment for mining.

Piping.—See "Water-works."

Piping.—Sabel Brothers, 508-518 West Bay street, Jacksonville, Fla., are in the market for 10-inch, 12-inch and 15-inch black wrought-iron pipe.

Plumbing Materials.—Southern Tinning & Plumbing Co., A. L. Cherry, manager, Crawford street, Portsmouth, Va., wants prices from manufacturers on galvanized and cast iron pipes and fittings, lead pipes, terra-cotta pipes, sheet lead, etc.

Pumps.—See "Water-works."

Railway Equipment.—See "Mining Equipment."

Railway Equipment.—Savannah Locomotive Works, Savannah, Ga., is in the market for 5000 to 10,000 tons of 60-pound steel relaying rails. (Quantities referred to erroneously last week.)

Railway Equipment.—Jos. E. Bowen, Atlantic Office Building, Norfolk, Va., is in the market for a standard-gauge electric locomotive.

Railway Equipment.—Gibbs Machinery Co., 804 West Gervais street, Columbia, S. C., wants prices on about eight miles of 35 or 40-pound new or second-hand "T" rail with spikes and joints; also 16 standard-gauge logging cars.

Roofing.—Ashland Fire Brick Co., Ashland, Ky., wants propositions at once for roofing dryhouse 112 feet 10 inches wide by 100 feet long with steel, both trusses and covering.

Rubber Novelties.—A. H. Burchard, Waco, Texas, wants addresses of manufacturers of rubber novelties.

Saw-mills.—John Pargatch, Gleckler, Texas, wants catalogues and price-lists of saw-mills.

Scales.—See "Mining Equipment."

Sewerage System.—Board of Public Works, John C. Landis, president, St. Joseph, Mo., will open bids December 1 for the construction of an extension to the Blacksnake creek main sewer northeasterly from its present terminus so far as the sum of \$20,000 will pay for same; also for the construction of the Sycamore-street sewer from its present terminus to the Missouri river, a distance of about 1500 feet. Certified check for \$1000, payable to the City Treasurer, must accompany each proposal. Plans, specifications, contracts, blank forms and all required information relative to work may be had at office of Wm. H. Floyd, Jr., city engineer. Usual rights reserved.

Steam power Plant.—Black Hawk Electric Co., Davenport, Iowa, wants prices on steam appliances.

Street Paving.—John D. Kelley, city secretary, Galveston, Texas, will open bids November 23 for paving certain streets with vitrified brick, approximating 14,100 square yards. All proposals must be on blanks attached to specifications, which will be furnished on application, and accompanied by a certified check for \$100, payable to City Treasurer. Plans and specifications on file in office of C. G. Wells, city engineer. Bids may be submitted on each street separately, or on the work as a whole. Usual rights reserved.

Tank and Tower.—See "Water-works."

Vehicles.—Lamar Furniture Co., Lamar, S. C., wants to correspond with manufacturers relative to agency for wagons and buggies; also state freight rates to Lamar.

Water works.—Water-works Committee, Marion, N. C., will open bids December 17 for furnishing material and constructing a system of water-works, to include steam plant, reservoir and four miles of pipe and appurtenances. Plans and specifications can be seen or obtained at office of J. MacNaughton, chairman committee, Marion, or R. L. Greenlee, engineer, Winston-Salem, N. C. (Bids were previously reported to be opened November 25.)

Water-works.—Town of Plain Dealing, La., wants prices and estimates on equipment for small water-works plant. Address H. H. Montgomery, chairman water-works committee.

Water-works.—J. M. Acker, mayor, Aberdeen, Miss., will open bids November 24 for materials and construction work for complete system of water-works with mechanical filter. Certified check for 4 per cent. required. Plans on file in mayor's office. For details address A. L. Dabney, engineer, Greenwood, Miss. Usual rights reserved.

Water-works.—W. W. Momyer, recorder, Muskogee, I. T., will open bids November 22 for constructing extensions to the water-works system, comprising approximately 15 miles of distribution system, settling basins, with valves and piping and one boiler. Plans and specifications may be obtained by making a deposit of \$10 with Burns & McDonnell, engineers, 509 Dwight Building, Kansas City, Mo. Certified check for \$1000 must accompany each bid. Usual rights reserved. (See "Filter Plant.")

Water-works.—Board of Water Commissioners, Carrollton, Ga., will open bids December 7 for furnishing machinery and material for constructing system of water-works. The machinery and material to be furnished consists of two 80-horse-power boilers, two 750,000-gallon compound pumps, one 1000-gallon-per-minute centrifugal pump and engine, one feed-water heater, one 90,000-gallon tank on 75-foot tower, one 15-foot diameter by 100-foot standpipe, 50 fire hydrants,

22 valves. Certified check for 5 per cent. of amount of bid, payable to L. C. Mandeville, chairman commission, must accompany each bid. Plans and specifications on file at office of chairman. Usual rights reserved.

**Water-works.**—City of Manning, S. C., will consider propositions for the construction of water-works system. Address C. R. Sprott.

**Water-works.**—Stewartstown Water Co., Stewartstown, Pa., will receive bids until November 25 for the construction of water-works system for the town of Stewartstown. Mark bids on outside and send to Allen T. Frey, Stewartstown, Pa. Specifications furnished on application to Charles S. York, consulting engineer, 1525 East Biddle street, Baltimore, Md. Usual rights reserved.

**Water-works Equipment.**—Proposals will be opened November 25 by the Isthmian Canal Commission, Washington, D. C., for furnishing material for the Panama water-works, including corporation cocks, lead pipe connections, expanders, service stops, tapping machines and parts, etc. Two forms required—one to mean delivery at Colon, R. P., via Panama Railroad Co.'s Steamship Pier No. 57, foot of West 27th street, New York, the commission to pay ocean freight charges; the other to mean delivery at either Colon or La Boca, bidder paying freight charges. Certified check for \$250, payable to J. G. Walker, Chairman of Commission, must accompany each bid.

**Water-works Supplies.**—Memphis Artesian Water Department, Lawrence Simpson, general superintendent, Memphis, Tenn., will open bids November 21 for furnishing to the Memphis Artesian Water Department the following wrought-steel pipe, lead pipe and pig lead, more or less: 300 feet 14-inch O. D. standard steel drive pipe, 2400 feet 10-inch standard steel drive pipe (all to have couplings and thread protectors), 25 tons lead pipe, 25 tons pig lead; to be delivered f. o. b. cars at Memphis, Tenn. Usual rights reserved.

**Wire Nails.**—See "Hardware."

**Wire Rope.**—See "Mining Equipment."

**Woodworking Machinery.**—See "Chair Machinery."

**Woodworking Machinery.**—Newton Manufacturing Co., Newton, Miss., wants prices on planers.

## MEXICO.

**Bottlesal Factory.**—The Crown Cork & Seal Co., Guilford avenue and Oliver street, Baltimore, Md., contemplates establishing a branch bottlesal factory in the City of Mexico, and has obtained a building suitable for its purpose.

**Copper Mines.**—Francisco Rodriguez Orozco of San Pedro de Ocampo, Zac., will develop additional copper properties.

**Copper Mines.**—A. H. Brewer of Ayutla, Jalisco, has filed claims to copper veins which he proposes to mine.

**Electric-light Plant.**—Sydney Sprunt of Chicago, representing a syndicate of that city, is in the city of Culiacan, Mazatlan, negotiating for a lighting contract, the securing of which will ensure the erection of an electric-light plant.

**Gold and Silver Mines.**—Dr. George B. Hyde of Silao, Guanajuato, has applied for titles to gold and silver properties which he intends to develop.

**Gold-Silver Mines.**—Thomas C. Young of Guanajuato, Guan., has filed claims to gold-silver veins which he proposes to mine.

**Gold Mines.**—It is reported that Manuel N. Amorzurutla of Jerez, Zacatecas, will develop gold mines.

**Hotel.**—H. L. Hall, lessee of the Sanz Hotel, City of Mexico, is having plans and specifications prepared for the erection of two additional stories to that structure. Fifty rooms will be added.

**Iron Mines.**—Henry Glinther of El Paso, Texas, is endeavoring to arrange for the development of iron mines near Jimenez, Chihuahua.

**Lead Mines.**—W. H. Williams of Chalehuites, Zacatecas, will develop lead mines.

**Market-house.**—Messrs. Ugarte and Garcia Fuentes of Guadalajara, Jalisco, have received contract for the erection of a steel-frame market-house in the city of Colima to cost \$60,000. It is reported the steel will be imported from Germany.

**Mining Developments.**—The Almoya Mining Co., Francisco Belden, president, Monterey, Nueva Leon, has increased its capital stock from \$100,000 to \$125,000 in order to further develop its mining properties and prepare for the active production of lead, silver and gold.

**Restaurants.**—Carlos Rivas, H. L. Hall,

Andres Lefebvre and W. B. Murray, all of the City of Mexico, are organizing the Hotel & Development Co., with a capital stock of \$1,000,000, for the purpose of building restaurants on the lines of the various railways of the republic.

**Silver-Lead Mines.**—Edward Villamin of Guachilango, Jalisco, will develop silver-lead mines.

**Silver Mines.**—T. C. Burgwin of El Paso, Texas, is reported as to develop silver mines.

## Railways.

**Steam Railroad.**—Hampson & Smith and Brisbane & Davis, contractors, are reported

to be preparing for work on the Vera Cruz & Pacific Railway. The betterments will consist of masonry and some large fills, as it is proposed to raise the grade to avoid floods.

**Steam Railroad.**—W. R. Curry and A. Mangold have, it is reported, been employed by Col. W. C. Greene, purchaser of the Rio Grande, Sierra Madre & Pacific Railway, to run the lines for the proposed extensions. Headquarters are at Cananea, Sonora, Mex.

**Street Railway.**—The Street Railway Co. in Mexico City will, it is reported, build a double track on San Juan de Letran street for the new lines to the Los Angeles and Nino Perdido suburbs.

# INDUSTRIAL NEWS OF INTEREST

## Kaolin and Timber Lands.

Manufacturers or investors likely to be interested in Southern kaolin and timber lands are invited to address J. H. Everett, Bryson City, N. C., regarding the properties he offers for sale.

## Coal and Timber Lands.

A tract of coal and hardwood timber land in Tennessee is offered for sale. The coal is said to be equal to Pennsylvania product. Railway facilities are nearby the property. Address John A. Shellito, Crossville, Tenn.

## Water-Power for Sale.

An opportunity is offered those interested in water-powers to purchase a valuable property at Port Republic, in the Shenandoah valley. A dam is at present developing 700 horse-power there. For full details write the Virginia Power Corporation, L. W. H. Peyton, secretary, Staunton, Va.

## Hart, Marriott & Allen, Architects.

An announcement that will be of interest to those desirous of being informed as to the architectural firms in the country comes from Columbus, Ohio. It is to the effect that John M. Marriott of that city has joined a Columbus firm, and the style of the firm will be Messrs. Hart, Marriott & Allen, as successors to Messrs. E. W. Hart & Co.

## Brick Works for Sale.

One of the best-equipped brick-manufacturing plants is offered for sale. It includes equipment for making 30,000 bricks daily, lease on 20 acres of land, drying facilities and railway. Cheap labor and coal is at hand; also railroad transportation to the markets. For full particulars address the Cartersville Brick Co., Cartersville, Ga.

## Southern Cotton Mill for Sale.

A valuable Southern cotton mill property will be offered for sale at public outcry on December 12. It comprises the plant known as the Juanita Cotton Mills at Big Falls, N. C. This plant includes 6300 spindles, steam and water power, 25 acres of land, operatives' cottages, etc. For full particulars address F. A. Daniels and C. B. Barbee, receivers, Raleigh, N. C.

## Charles Lang Joins A. D. Granger.

It is of interest to note that Charles Lang, formerly with the Wheeler Condenser & Engineering Co., has joined the sales department of the A. D. Granger Co. at the New York offices, 55 Liberty street. Mr. Lang will make a specialty of pumps and condensers, the Granger Company having recently acquired the agency for the Barr Pump Co. of Philadelphia, Pa.

## Automatic Signals for Factory Operation.

An innovation in watchman's clocks is being put on the market. It is known as the Columbia Program Clock, and gives automatic signals for every change of work, special duty or engagement, with warning in advance when desired. The device is simple, inexpensive and easy to install. Messrs. C. L. Hayes & Co., Lebanon, Tenn., can be addressed for further information.

## Cotton Mill for Sale.

It is announced that the complete plant of the Camden Cotton Mills will be offered for sale at public outcry on December 5. An upset price of \$150,000 has been decided on. The mill has 12,000 spindles and 300 looms, steam and water-power equipment, etc., and the property includes 1400 acres of land, cottages for operatives, etc. For information address L. A. Wittkowsky, master, or W. M. Shannon and C. H. Yates, receivers, Camden, S. C.

## Weber Awarded Gold Medal.

The international jury of awards at the Louisiana Purchase Exposition in St. Louis has awarded gold medals to the Weber Gas & Gasoline Engine Co. of Kansas City, Mo.,

for its Weber Gas Engines and Weber Suction Gas Producers. The gold medal is the highest award made by the jury. This tribute to the superiority of the Weber equipments will emphasize the success with which the company has met in building and installing plants.

## Members of Rogers, Brown & Co.

It is announced that Messrs. E. L. Billingsden, J. K. Pollock and W. T. Shepard have been admitted to the firm of Rogers, Brown & Co. For years they have occupied important positions with the firm, and are well known to the trade. The firm now consists of Wm. A. Rogers, Buffalo; D. B. Meacham, Cincinnati; M. Cochran Armour, Chicago; A. A. Fowler, New York; E. L. Billingsden, Chicago; J. K. Pollock, Cincinnati, and W. T. Shepard, Buffalo.

## Interest in Manufacturing Plant.

Investors seeking an opportunity for capital will be interested in reference to a large manufacturing plant, one-half interest in which is offered for sale. The enterprise has been established 10 years, and ships its product to all parts of the United States and to foreign countries. About \$300,000 is invested, and the owners want to dispose of the half-interest in order to remove plant to a larger city. To investigate this proposition, address "Business," care of Manufacturers' Record.

## Timber Land for Sale.

Investors or manufacturers seeking to purchase timber lands in the South and Southwest are advised that certain large tracts are offered for sale by F. B. Cunningham, 310 Olive street, St. Louis, Mo. The properties are all well located for development. They include 3200 acres of cottonwood, 15,750,000 feet of cypress, 30,000,000 feet of cypress, 100,000,000 feet of cypress with mill, 110,000,000 feet of pine, 33,000 acres of white oak, ash and hickory in Missouri, well watered, two towns on it, one being the county-seat; several good farms, etc.

## A Large Cement Sale.

Messrs. W. L. Macatee & Sons, Houston, Texas, representatives for the Alpha Portland Cement Co. of Easton, Pa., have been awarded contract for furnishing 114,000 bags of Alpha cement for use of J. M. O'Rourke & Co., who are to construct about one mile of seawall extension for the United States government in front of the fortifications at Galveston. This cement, 10,830,000 pounds, which would lay a four-foot sidewalk 67 miles long, would make 450 carloads of 24,000 pounds each or over 22 trainloads of 29 cars each, the total length of which, including 22 engines, tenders and cabooses, closely coupled together, would be over three and one-half miles.

## A Ship-Plate Scarfing Machine.

There has recently been built a machine for scarfing ship plates for the Eastern Shipbuilding Co. of New London, Conn. The machine presents some novel features, and a description of it will interest foremen, superintendents and designers in many machinery-building establishments. It was designed and manufactured by the Builders' Iron Foundry of Providence, R. I., which company makes a specialty of supplying special machinery and solicits correspondence from those in need of anything in that line. The ship-plate scarfing machine is fully explained in an illustrated leaflet which the Builders' Iron Foundry will send to applicants.

## Highest Prize for Railway Devices.

Among the many interesting exhibits at St. Louis were those showing the progress of steam railways in this country, including the numerous devices in the nature of frogs, switches, railbrakes, track supplies, etc., which have facilitated that progress. American inventors have been foremost in introducing these articles. It is especially worthy of mention that the St. Louis exhibit of

that well-known enterprise, the American Frog & Switch Co., was awarded the highest prize—gold medal—in its class. This company is known wherever railways exist for its improved frogs, switches, railbrakes, steam and electric track supplies and other kindred products, and its extensive plant at Hamilton, Ohio, is generally operating at full capacity to supply the demand.

## A Power-Plant Specialist.

Power plants are continually being erected throughout the South in connection with various industries and developments. The planning, construction and installation of these plants has attracted the services of some of the most experienced engineers in the country, among whom may be named M. A. Grover of Birmingham, Ala. Mr. Grover makes a specialty of power plants, electric-lighting systems, interurban electric railways, power transmission, steam plants, etc. He was connected for two years with the Westinghouse gas-engine interests and for six years with several other well-known companies. He is prepared to act as engineer in charge of installing the class of plants mentioned, and solicits correspondence from projectors and established enterprises.

## Farquhar Machinery Receives Highest Award.

The A. B. Farquhar Co., Ltd., of York, Pa., whose exhibit, comprising engines, boilers, threshers, saw-mills and agricultural machinery, is one of the features in the Palace of Agriculture at the St. Louis Exposition, has just received highest award and gold medal on saw-mills, engines and threshing machines. The exhibit was truly a revelation in mechanical improvement, as the Farquhar Company has always kept well in the lead in new inventions. It has frequently received awards for improvements, and the name "Farquhar" on any farm implement is today a guarantee that the machine in question is highly efficient and economical. Those who have not seen the exhibit should write the A. B. Farquhar Co. for a copy of its 1905 catalogue.

## Coal-Handling Machinery for Duluth

The Wellman-Seaver-Morgan Company, Cleveland, Ohio, was recently awarded contract to construct two large coal-handling machines for the Boston Coal Dock & Wharf Co., Duluth, Minn. This is one of the docks under the management of the St. Paul & Western Coal Co., of which M. J. Patton is superintendent. The machines will consist of two conveyor bridges, each about 350 feet long, including front and rear cantilevers. The machines will be designed so that coal may be screened and loaded into box cars, as well as unloaded from vessels, and will be built to be operated by steam. They will be equipped with two-ton Hulett patent excavating buckets and machinery designed to give maximum speeds of operation. The structural work will be of steel throughout, and the machines will be self-propelling along the dock.

## Entertained by Westinghouse.

Over 600 persons were present at the banquet tendered by the Westinghouse Electric & Manufacturing Co. of Pittsburgh to the members of the Iron and Steel Institute on November 2. The members were being entertained by the company, and the banquet was held in the largest aisle of the Westinghouse plant—one-third of a mile long. This aisle was decorated with American and English flags, and thousands of Bremer lamps were suspended from the ceiling. Cooper Hewitt lamps from the side, while the tables were almost hidden beneath chrysanthemums, roses and other flowers, the whole presenting a beautiful effect. A unique souvenir presented to the guests was an induction motor small enough to be placed in one's pocket. Sir James Kitson, past president of the Institute, thanked the city of Pittsburgh on behalf of Andrew Carnegie for the courtesies offered the visitors, and Mr. Westinghouse indicated his pleasure at being honored on this occasion by the presence of visiting friends from abroad.

## Modern Office Devices and Fixtures.

In few offices are the managers content to conduct business with devices and furniture that have become obsolete. Inventors and manufacturers have brought about this by their introduction of desks, chairs, filing cases, card systems for keeping of accounts, loose-leaf ledgers and other modern innovations that simplify and economize in office transactions. In Baltimore, Md., the Cushing Company is representing the best of the devices and fixtures referred to. This company also deals in all kinds of stationery, contracts for printing of all kinds, etc., besides books, fine leather goods and fancy stationery. It was one of the many enterprises



whose establishments were destroyed by the great fire of last February, and has just completed and occupied its new five-story building at No. 1 Hanover street, next to the corner of Baltimore street. The Cushing Company invites business men to call at its establishment and examine the many different time and labor-saving articles offered the progressive man.

#### Everything a Miller Wants—And Nothing He Doesn't Want.

Everything a miller wants and nothing he doesn't want is a very comprehensive term. Millers of flour, corn, feed, etc., will therefore be interested in a brief reference to the products of a company that announces its thorough ability to give them everything they want and nothing they do not want. This company has designed and built a number of mills that contain improved features appealing to every experienced miller who knows the necessity of economy in first cost as well as in operation, and the durability of attrition mills, corn-ear crushers, roller mills, scourers and others apparatus used in the modern mill. The "Unique" roller mills, attrition mills and sifters, as well as various other Robinson products, have found the greatest favor with the most experienced millers, a point tending to prove the company's claims that its designs afford the miller the greatest opportunities for the profitable conduct of his establishment. Experienced men planned the machines from a practical standpoint, and the different ideas comprising the whole machine in each case are offered as new and original. The various features of the Robinson machines are such that no progressive miller desirous of keeping pace with the improvements developing in his chosen industry can afford to be without a full knowledge of their merits. This knowledge can readily be obtained by writing the Robinson Manufacturing Co., P. O. Box 11, Muncy, Pa. This is the company referred to above.

#### Ice and Refrigerating Machinery Exhibit.

There is an exhibit of refrigerating and ice-producing machinery on the exposition grounds which is attracting much attention from visitors. It has been installed near Intramural Station, No. 9 University Way, by the Ice & Cold Machine Co. of 912 Main street, St. Louis. Usually an ice machine consists essentially of a pump handling carbonic acid gas, hydrogen sulphide, air or some other gaseous medium, and driven by a steam engine or other prime mover. In the present case a steam engine is used, which, in order to obtain condensation (distilled water) for making ice, as well as to improve the engine economy, is run condensing, exhausting into an 1800-square-foot Worthington surface condenser. The tubes of this condenser are of seamless drawn brass and the tubeheads are carefully drilled and tapped to receive screw glands. The latter are adjustable and permit of free movement of the tubes during expansion or contraction, and can be readily removed to permit replacing the packing. The cooling water for these condensers is taken from the Lagoon. To remove the air which always accumulates in a surface condenser, a Worthington wet vacuum pump of the duplex type is used, having 10-inch cylinders and 14-inch air cylinders and 10-inch stroke. The peculiarity of the wet vacuum pump is that the air pistons are always submerged, preventing leakage and doing away with the necessity for lubrication. The steam piston valves used in this pump are perfectly balanced, requiring little or no oiling, making it possible to operate the pump with very little attention. The Worthington machinery referred to is the product of the International Steam Pump Co., 114 Liberty street, New York.

#### TRADE LITERATURE.

##### Merchant's Bright Tinplates.

The evolution of the Merchant bright tin is described in a little treatise now being distributed. The point is that manufacturers want to make the best tinware, and in order to do so they must have the best bright tin. In the treatise the process of manufacture, tinning of the plates, the cleaning process, the assorting-room, etc., are all chronicled. "Bright Tinplates" is the title of the treatise. If you want a copy write Merchant & Co., Incorporated, Philadelphia, New York and Chicago. This company manufactures the well-known Merchant tins of various brands.

##### Proportions of Concrete—Artificial Stone Sidewalks.

Users of cement will find some handy and valuable data for their information presented on the two handsomely-printed cards or wall-hangers issued by Messrs. Samuel H. French & Co., York avenue, 4th and Callowhill streets,

Philadelphia, Pa. The cards are headed "Artificial Stone Sidewalks" and "Proportions of Concrete," thus very aptly indicating what can be looked for in the data given. The instructions include reference to the excellence of Dexter Portland cement, for which Messrs. French & Co. are the sole agents, and of which they sell enormous quantities during the year.

##### De Laval Steam-Turbine Alternators.

The problem of successful operation in parallel of alternating-current generators when driven by reciprocating engines has always been a difficult one, and the requirements as to the variation in angular velocity and regulation are seldom fulfilled in machines of small size. In this class of work the De Laval turbine has been particularly successful. The De Laval alternating-current units are made in sizes of 75, 100, 150 and 200 kilowatt, 60-cycle, single, two or three-phase, with voltages varying from 220 to as high as may be required on machines of those capacities. They are the subject of Bulletin No. 3, issued by the De Laval Steam Turbine Co., 74 Cortlandt street, New York. Send for a copy and read the details.

##### Buffalo Scale Co.'s Catalogue.

The illustrated catalogue of the Buffalo Scale Co. of Buffalo, N. Y., contains a most comprehensive list of weighing machines manufactured by the company. The latter is in a position to furnish numerous special modifications of its product to be used for new and unusual purposes or to fit difficult or contracted locations. Having furnished special scales for steel and iron plants, asphalt and chemical works, oil mills, elevators, breweries and numerous other lines of industry, the company has a large assortment of patterns, which enables it to meet the requirements of nearly all users of scales and overcome the difficulties of location or other conditions not regular. Buffalo scales are made in the smallest as well as the largest sizes.

##### Newhall Forgings and Castings.

Catalogue No. 185 of the Newhall Chain Forge & Iron Co. pertains to forgings and castings produced by the company. Its pages are illustrative and descriptive of "Warwick" conveyor chain, close-link chain, stud-link chain, hooks, shackles, bolts, dogs and other similar metal articles used largely in industrial activity. All Newhall chains are tested to United States government standard, as well as the American Bureau of Shipping, Lloyd's Association and Bureau Veritas. Proof certificates are furnished with the chains. The other Newhall articles are of the highest grade, a fact well evidenced by the large and increasing demand which the manufacturer is engaged in meeting. Write the Newhall Chain, Forge & Iron Co., 9 Murray street, New York.

##### For Ice Manufacturers.

It is quite probable that before the winter repairs and alterations are complete many ice manufacturers will require just such apparatus as is described in several illustrated leaflets now being distributed. The apparatus includes improved ammonia condensers, steam condensers, steel valves and fittings, etc., which have been introduced to perfect the operation and promote the economy of ice-manufacturing and cold-storage establishments. The Triumph Ice Machine Co. of Cincinnati, Ohio, makes the machines mentioned. It also builds all kinds of ice and cold-storage equipment and contracts for the erection of complete plants or for repairing and bettering plants and bringing them entirely up to date. Write, telegraph or telephone the company whenever you need anything in the ice-machinery class.

##### Fireproof and Hollow-Metal Windows.

It is very noticeable that one of the most important features of fireproof construction in modern buildings is the use of fireproof and hollow-metal frames and sash. For instance, in the two new buildings being completed in New York and Philadelphia for John Wanamaker there are 400 of these windows used, a total of 180,000 square feet in the two structures. A notable fact in connection with these windows is that they are all Lupton window-frame and sashes. Lupton windows are proving their superiority in all parts of the United States. They are made by the David Lupton's Sons Company, Allegheny avenue and Tulp street, Philadelphia. Write for a copy of the leaflet showing one of the Wanamaker buildings and presenting some interesting facts for the attention of building owners, architects and contractors.

##### Graphite Lubricants.

A new catalogue has been issued describing the many famous graphite lubricants manufactured by the Joseph Dixon Crucible Co.,

Jersey City, N. J. The introduction deals in a general way with the growth of the graphite industry, the theory of graphite lubrication, the special advantages of flake graphite in contrast to amorphous graphite and the practical relation of graphite to the theory of lubrication. The book further describes the various lubricating graphites and graphite lubricants of the Dixon Company, including their general uses and the retail prices of the different-sized packages. Among them are mentioned Dixon's Ticonderoga Flake Graphite, Special Graphite No. 635, Heavy Graphite Machine Grease, Waterproof Graphite Grease, Graphite Cup Greases, Axle Grease, Automobile and Cycle Lubricants, Handy Graphite Rope Dressing and Graphite Pipe Joint Compound.

##### Alberger Barometric Condensers.

There has been issued an illustrated pamphlet describing the Alberger Barometric Condensers, apparatus designed and constructed to compare in character and efficiency with the engines and turbines with which they are used. Full appreciation of the value of a high range of vacuum and the importance of its economical production has influenced the manufacturers of the Alberger equipments. A careful study of the requirements from the point of view of the operator and engineer rather than that of the pump manufacturer has developed many marked improvements and changes from older and well-known forms, and these improvements are embodied in Alberger apparatus. The Alberger Condenser Co. of 95 Liberty street, New York, issues the descriptive pamphlet referred to. This company is well known as a designer and maker of high-grade condensing apparatus and vacuum pumping machinery. Its book contains much new information that should not be missed by all who are interested in barometric condensers or any of the class of machinery indicated.

##### Operating Tools by Electric Motors.

The November issue of the Journal of the Franklin Institute of Philadelphia contains a discussion on the "Individual Operation of Machine Tools by Electric Motors," which will prove of great interest to all who have the method in contemplation. A most thorough discussion on this subject was held before the Institute in November, 1900, the opening paper being read by Prof. F. B. Crocker and discussed by Messrs. Gano S. Dunn, Samuel Vaclain, Wm. C. L. Edlin, A. E. Kennelly and Carl Herring. A meeting held on February 17, 1904, was arranged by Dr. Wm. H. Wahl, secretary of the Franklin Institute, his desire being to again discuss the subject after the great progress made in the intervening three years. On this date the opening remarks were made by Charles Day (of Messrs. Dodge & Day, modernizing engineers, Nicetown, Philadelphia), and the subject was again fully discussed by six engineers who have made a specialty of the subject. Almost every phase was touched upon by some of those who took part in the discussion, so that this issue of the Journal contains a summary of the situation at the present time.

##### Milburn's Book of Designs.

In preparing architectural plans for the construction of buildings it is well to consider not only progressive ideas of construction, but also the scientific and practical manipulation of the raw materials entering into them. Throughout the South there have been many thousands of buildings erected during the past several years, some of them large and costly structures, and their plans and specifications have been largely prepared by Southern architects. Among these, and very prominently known, is Frank P. Milburn of Columbia, S. C. Mr. Milburn's long experience has enabled him to thoroughly understand his chosen profession, and he can point to many of the most ornate, useful and costly buildings in the country as his work. He has issued a book of designs, presenting several dozen pictures of buildings he has planned. These include the Kentucky Statehouse, Frankfort, Ky.; Commercial National Bank, Macon, Ga.; Southern Railway stations, many courthouses, bank buildings, railroad depots, schools, libraries, churches, residences; in fact, every kind of structure. Milburn's book of designs presents also some suggestions to those who may be interested in the erection of modern structures of any character. Michael Heister is Mr. Milburn's associate.

##### Columbus Gas and Gasoline Engines.

For some 56 years the Columbus Machine Co. of Columbus, Ga., has been widely known as a builder of motive power. The company has been a builder of steam engines almost from the beginning of the introduction of steam engines down to the present day, and has participated in the development of the steam engine from some of the crudest types,

as they existed 50 years ago, down to the modern high-speed and Corliss types of steam engines. Early in the development of the gas engine the company also took an active interest in it, conducting various experiments and tests, and believing that the twentieth century would be the era of the gas engine as the nineteenth century was of the steam engine. It has for a number of years been perfecting this type of motive power, and its precedence over the steam engine has taken place so rapidly in the past few years that the Columbus plant is now operated in the output of gas engines almost to the entire exclusion of the steam engine. The Columbus Machine Co. is equipped for and is furnishing at the present time one of the most complete types of gas and gasoline engines in use at present, with all parts and features worked out carefully, from many years of experience as a builder of prime movers. The new 1904 catalogue of the company illustrates and describes these engines, gives the list of sizes, and refers to the geared pumping engines, hoisting engines and traction engines for the agricultural trade now being put in the market.

##### Modern Pneumatic Tools.

The purposes to which pneumatic tools may be applied are of wide variety and scope, but proper efficiency can only be obtained by selecting tools of suitable weight and capacity for each class of work. Frequently operators attach blame to a tool when the real trouble is due to the application of the wrong tool, it not being designed especially for the duty which is demanded. The design and manufacture of pneumatic tools entirely adapted to the various kinds of work met with has been for some 10 years the specialty of the Chicago Pneumatic Tool Co. This company invites comparisons with other pneumatic tools, and feels sure that investigation will affirm the judgment of the many expositions at which the company has been awarded the highest prize, as well as the judgment of thousands of users in all parts of the world. The company offers buyers its latest catalogue describing and illustrating the various pneumatic equipments it has on the market. Views are also shown of the company's two large factories at Cleveland and Detroit. The cover pages are printed from special designs modeled in clay. The front cover indicates the progress of industry, and the principal figure holds in his hands the pneumatic tools that have played such an important part in recent advances in various branches of industry. The back cover has the company's monogram. A complete line of air compressors is also made by the company, and a catalogue devoted to their interests has been prepared for the use of purchasers. The Chicago Pneumatic Tool Co. has its general offices in Fisher Building, Chicago, and its Eastern office at 95 Liberty street, New York; branches in San Francisco, Toronto, London, Paris, Berlin and Yokohama.

##### Machinery, Supplies and Merchandise—America's Great Bargain House.

One of the most unique enterprises in the world has its home in Chicago, from which city it sends its goods to all parts of the world. It is known by the name of the Chicago House Wrecking Co., formed originally to dismantle expositions and other buildings, and branching out from time to time until today it covers practically everything that may be termed machinery, supplies and merchandise. The company's offerings are all bargains; much of its machinery and supplies are frequently new and as good as new, obtained from assignees and bankrupt sales at low prices that enables them to be offered at bargain prices to buyers throughout the world. It would be needless to enumerate the articles offered for sale, as they comprise thousands in the way of engines, boilers, electrical machinery, iron and woodworking machines, metal-working machines, building materials of all kinds, mill furnishings and supplies; in fact, every kind of machinery, supplies and merchandise. The extent of the company's present stock is but hinted at when stating that over 1300 articles are indexed in its latest catalogue, now being distributed to purchasers. The Chicago House Wrecking Co. has its offices and plant at West 35th and Iron streets, Chicago, where correspondence should be addressed, and where copies of the catalogue can be obtained by application in person or by mail. Anyone contemplating to establish an industry or enlarge an existing plant should write the company stating just what is wanted in machinery or other supplies, and will receive prices and descriptions of what can be offered for their use. The catalogue referred to is fully illustrated, and gives all the necessary facts about the company's stock in hand. It is a book of some 350 pages.

## FINANCIAL NEWS

The Manufacturers' Record invites information about Southern financial matters, items of news about new institutions, dividends declared, securities to be issued, openings for new banks, and general discussions of financial subjects bearing upon Southern matters.

## Review of the Baltimore Market.

Office Manufacturers' Record.

Baltimore, Md., November 16.

The activity in the Baltimore stock market, beginning immediately after election day, has continued during the past week with particular strength and activity in Cotton Duck, Seaboard, G. B. S. Brewing, Atlantic Coast Line, Alabama Consolidated Coal & Iron and other features. United Railways was rather dull, but the different issues thereof strengthened noticeably in sympathy with the rest of the market. Trust company stocks also advanced, as did those of the fidelity companies. Investment securities generally, while showing a good business, were comparatively quiet, most of the attention of traders being centered upon speculative stocks and bonds.

In the trading United Railways common rose from  $7\frac{1}{2}$  to  $8\frac{1}{4}$ , the incomes from  $11\frac{1}{2}$  to 46, with last sale at  $45\frac{1}{2}$ , and the 4s from  $91\frac{1}{2}$  to  $92\frac{1}{2}$ , the last sale being at 92; United Light & Power preferred sold at 37, the 4s from  $91\frac{1}{2}$  down to 91; Consolidated Gas at 84 down to 81, the 6s at  $111\frac{1}{4}$ , the 5s from 116 to  $116\frac{1}{2}$ ; Seaboard common from 17 to  $19\frac{1}{4}$ , reacting to 19, again advancing to the highest, but falling back to  $19\frac{1}{4}$ , with last sale at  $19\frac{1}{2}$ ; the preferred from  $34\frac{1}{2}$  to  $39\frac{1}{2}$ , reacting to 39, then going back to 40, with last sale at  $39\frac{1}{4}$ ; the 4 per cents, from  $84\frac{1}{2}$  to  $85\frac{1}{2}$ , holding most of the advance; the 10-year 5s from  $102\frac{1}{2}$  to  $102\frac{1}{2}$ , reacting to  $102\frac{1}{4}$ ; the 3-year 5s from  $98\frac{1}{4}$  to 99, with last sale at  $98\frac{1}{2}$ ; Cotton Duck common advanced from 6 to  $9\frac{1}{2}$ , reacting to  $7\frac{1}{2}$ ; United States Cotton Duck sold at 8, Cotton Duck incomes from 27 to 32, reacting to  $28\frac{1}{2}$ ; Cotton Duck 5s from 73 to  $76\frac{1}{2}$ , reacting to 74; G. B. S. common  $6\frac{1}{4}$  to 8, the incomes from  $24\frac{1}{2}$  to  $27\frac{1}{4}$ , reacting to  $26\frac{1}{4}$ , and rising again to  $27\frac{1}{4}$ , with last sale at 27; income scrip 29 and 30; G. B. S. 1sts from  $54\frac{1}{4}$  to  $56\frac{1}{4}$ , reacting to 56.

Bank stocks sold as follows: Citizens', 29; Farmers and Merchants', 57; Commercial and Farmers', 102 and 103; Union, 120; Trust and other company stocks were traded in at the following figures: Baltimore Trust, 299 to 300; Mercantile Trust, 158; International Trust,  $127\frac{1}{2}$  to 135, reacting to 128 and rising again to 133; Union Trust from 45 to 54, reacting to 48; Continental Trust, 148; Colonial Trust, 28; Maryland Casualty, 55 to 57; Fidelity & Deposit, 149 to  $152\frac{1}{2}$ ; United States Fidelity, 108 to 116, reacting to 114.

Other securities traded in were as follows: Atlantic Coast Line common,  $140\frac{1}{2}$  to 153; Atlantic Coast Line Consolidated 4s,  $98\frac{1}{4}$  to 99; do. 4s certificates, 90 to  $90\frac{1}{2}$ ; Atlantic Coast Line of Connecticut stock, 300 to 310; Northern Central stock,  $106\frac{1}{2}$  down to  $105\frac{1}{2}$ , reacting to  $105\frac{1}{4}$ ; Alabama Consolidated Coal & Iron common, 27 to 32; the preferred, 76 to  $82\frac{1}{2}$ , last sale at 82; the 5s, 81 to 85; Florida Southern 4s,  $90\frac{1}{4}$ ; Georgia & Alabama Consolidated 5s,  $110\frac{1}{2}$  to 112; Norfolk & Carolina 5s,  $117\frac{1}{4}$  down to  $116\frac{1}{2}$ ; Anacostia & Potomac 5s,  $104\frac{1}{4}$ ; City & Suburban 5s (Baltimore),  $114\frac{1}{4}$ ; Norfolk Railway & Light 5s, 90 to 91; Georgia Terminal 5s,  $111\frac{1}{4}$ ; Virginia Railway & Electrical Development 5s, 97 to 99; Weatherford, Mineral Wells & Northwestern 5s,  $107\frac{1}{2}$ ; Metropolitan Street Railway 5s (Washington),  $117\frac{1}{4}$ ; Macon Railway & Light 5s,  $91\frac{1}{4}$  to 95; Balti-

more City 5s, 1916,  $119\frac{1}{2}$  to  $119\frac{1}{2}$ ; Georgia Southern & Florida 2d preferred, 65 to 68; Georgia Southern & Florida 5s,  $114\frac{1}{4}$  to 115; International Mercantile Marine common, 10, 15 and  $14\frac{1}{4}$ ; Columbia (S. C.) 6s,  $118\frac{1}{4}$ ; Coal & Iron Railway 5s,  $107\frac{1}{4}$ ; Baltimore Brick, 9 to  $9\frac{1}{4}$ ; Virginia Century,  $97\frac{1}{4}$  to  $97\frac{1}{2}$ ; Georgia, Carolina & Northern 5s,  $111\frac{1}{4}$  to  $111\frac{1}{2}$ ; Frederick Turnpike stock,  $1\frac{1}{4}$ ; Baltimore City 3 $\frac{1}{2}$ s, 1928,  $110\frac{1}{4}$  to  $110\frac{1}{2}$ ; Maryland Fire Insurance, 15 cents; Lexington Street Railway 5s,  $103\frac{1}{2}$  to  $103\frac{1}{4}$ ; Maryland & Pennsylvania 4s,  $92\frac{1}{2}$ ; Charleston Consolidated Electric 5s, 90; City & Suburban (Washington) 5s, 106; Canton Company, 100; Louisville & Nashville stock, 138; Virginia Midland 5ths,  $114\frac{1}{2}$  to  $114\frac{1}{4}$ ; Maryland Telephone 5s,  $90\frac{1}{4}$ ; Atlanta Consolidated Street Railway 5s,  $107\frac{1}{4}$ ; Virginia Midland 4ths,  $112\frac{1}{2}$ ; Baltimore City 3 $\frac{1}{2}$ s, 1930,  $110\frac{1}{2}$ .

## SECURITIES AT BALTIMORE.

Last Quotations for the Week Ended November 16, 1904.

Railroad Stocks.	Par.	Bid.	Asked.
Atlantic Coast Line.....	100	153	90
Atlantic Coast Line of Conn.....	100	318	340
Georgia Southern & Florida.....	100	32	40
Georgia Sou. & Fla. 1st Pref.....	100	97	100
Georgia Sou. & Fla. 2d Pref.....	100	67	70
Macon Railway & Light Pref.....	100	75	80
Maryland & Pennsylvania.....	100	15	20
Norfolk Railway & Light.....	100	15	20
Norfolk Railway Common.....	100	19	20
Seaboard Railway Preferred.....	100	39	40
United Railways & Elec. Co.....	50	8	8

Bank Stocks.	Par.	Bid.	Asked.
Citizens' National Bank.....	100	28	29
Commercial & Far. Nat. Bank.....	100	103	103
Drovers & Mech. Nat. Bank.....	100	385	400
Farmers & Mer. Nat. Bank.....	100	40	50
First National Bank.....	100	140	150
German-American Bank.....	100	106	106
German Bank.....	100	106	106
National Bank of Baltimore.....	100	120	120
National Bank of Commerce.....	100	15	20
National Howard Bank.....	100	11	12
National Marine Bank.....	100	30	37
National Mechanics' Bank.....	100	10	20
National Union Bank of Md.....	100	120	120
Second National Bank.....	100	182	182

Trust, Fidelity and Casualty Stocks.	Par.	Bid.	Asked.
American Bonding & Trust.....	50	35	35
Baltimore Trust & Guarantee.....	100	306	310
Central Real Estate & Trust.....	50	62	62
Continental Trust.....	100	140	150
Fidelity & Deposit.....	50	152	155
International Trust.....	100	132	135
Maryland Casualty.....	25	56	57
Mercantile Trust & Deposit.....	50	155	159
Union Trust.....	50	46	54
U. S. Fidelity & Guaranty.....	100	113	115

Miscellaneous Stocks.	Par.	Bid.	Asked.
Alabama Con. Coal & Iron.....	100	31	32
Ala. Con. Coal & Iron Pref.....	100	82	82
Atlantic Coast Line 1st 4s.....	100	81	85
Consolidated Gas.....	100	70	70
Cotton Duck Voting Trust.....	100	7	8
G. B. & S. Brewing Co.....	100	77	8
George's Creek Coal.....	100	76	8
International Mer. Marine.....	100	14	15
Internat. Mer. Marine Pref.....	100	28	30
United Elec. L. & P. Pref.....	50	35	38
U. S. Cotton Duck Common.....	100	9	10

Railroad Bonds.	Par.	Bid.	Asked.
Albany & Northern 5s, 1946.....	94	107	107
Atlantic & Charlotte 1st 7s, 1907.....	107	107	107
Atlantic Coast Line 1st 4s, 1925.....	98	98	98
Atlantic Coast Line 4s, Cts., 1962.....	90	90	90
Atlantic Coast Line (Conn.) 5s.....	116	116	116
Atlantic Coast Line (Conn.) 4s.....	96	96	96
Atlan. Coast Line (S. C.) 4s, 1948.....	101	101	101
Char. Col. & Aug. 1st 5s, 1910.....	107	107	107
Coal & Iron Railway 5s, 1920.....	108	108	108
Florida Southern 4s, 1910.....	96	96	96
Georgia & Alabama 5s, 1945.....	112	112	112
Georgia & Ala. Terminal 5s, 1948.....	112	112	112
Georgia, Car. & North, 1st 5s, 1929.....	111	111	111
Georgia South. & Fla. 1st 5s, 1945.....	115	115	115
Maryland & Pennsylvania 4s, 1951.....	94	94	94
Potomac Valley 1st 5s, 1941.....	116	116	116
Raleigh & Augusta 1st 6s, 1926.....	122	122	122
Seaboard Air Line 4s, 1950.....	85	85	85
Seaboard Air Line 5s, 10-year, 1911.....	102	102	102
Seaboard Air Line 5s, 5-year.....	96	96	96
Seaboard & Roanoke 5s, 1925.....	111	111	111
Virginia Midland 1st 6s, 1906.....	103	103	103
Virginia Midland 4th 3-4-5s, 1921.....	112	112	112
Virginia Midland 5th 5s, 1926.....	114	114	114
Western Maryland new 4s, 1952.....	88	88	88
West. North Carolina Con. 6s, 1914.....	120	120	120
West Virginia Central 1st 6s, 1911.....	112	112	112
Wilmington & Wel. Gold 5s, 1935.....	120	120	120

Street Railway Bonds.	Par.	Bid.	Asked.
Anacostia & Potomac 5s, 1949.....	104	104	104
Atlanta Con. St. Rwy. 5s.....	107	107	107
Baltimore Pref. St. Rwy. 5s, 1925.....	100	100	100
Charleston City Railway 5s, 1923.....	106	106	106
Charleston Con. Electric 5s, 1929.....	90	90	90
City & Suburban 5s (Balt.), 1922.....	116	116	116
City & Suburban 5s (Wash.), 1948.....	106	106	106
Lexington Railway 1st 5s, 1919.....	103	103	103
Macon Rwy. & Lt. 1st Con. 5s, 1953.....	94	94	94
Metropolitan 5s (Wash.), 1925.....	117	117	117
Newport News & Old Pt. 5s, 1938.....	90	90	90
Norfolk Railway & Light 5s.....	90	90	90
Norfolk Street Railway 5s, 1944.....	108	108	108
United Railways 1st 4s, 1919.....	91	91	91
United Railways Inc. 4s, 1949.....	46	46	46
Virginia Elec. Rwy. & D. 5s.....	98	98	98

Miscellaneous Bonds.	Par.	Bid.	Asked.
Alabama Consol. Coal & Iron 5s.....	84	85	85
Consolidated Gas 6s, 1910.....	111	111	111
Consolidated Gas 5s, 1939.....	116	116	116
G. B. & S. Brewing 1st 3-4s.....	55	55	55
G. B. & S. Brewing 2d Incomes.....	26	26	26
Maryland Telephone 5s.....	50	50	50
Mr. V. & Woodby's Cot. Duck 5s.....	23	23	23
Mt. V. & Woodby's Cot. Duck Inc.....	28	28	28
United Elec. Light & Power 4 $\frac{1}{2}$ s.....	91	91	91

## SOUTHERN COTTON-MILL STOCKS

Quotations Furnished by Hugh MacRae & Co., Wilmington, N. C., for Week Ending November 14.

	Bid.	Asked.
Abbeville Cotton Mills (S. C.).....	60	75
Alken Mfg. Co. (S. C.).....	85	90
Anderson Cotton Mills (S. C.).....	115	115
Arkwright Mills (S. C.).....	106	106
Augusta Factory (Ga.).....	72	75
Beiton Mills (S. C.).....	95	101
Buffalo Cotton Mills (S. C.).....	92	96
Buffalo Cotton Mills (S. C.) Pfd.....	122	122
Cabarrus Cotton Mills (N. C.).....	102	102
Chadwick Mfg. Co. (S. C.).....	95	95
Chiquola Mfg. Co. (S. C.).....	95	95
Clifton Mfg. Co. (S. C.).....	95	95
Clifton Mfg. Co. (S. C.) Pfd.....	106	106
Clinton Cotton Mills (S. C.).....	135	135
Columbus Mfg. Co. (Ga.).....	90	90
Dallas Mfg. Co. (Ala.).....	79	85
Darlington Mfg. Co. (S. C.).....	95	95
Eagle & Phoenix Mills (Ga.).....	106	106
Esley Cotton Mills (S. C.).....	100	100
Enoree Mfg. Co. (S. C.).....	85	85
Enoree Mfg. Co. (S. C.) Pfd.....	100	100
Enterprise Mfg. Co. (Ga.).....	80	80
Exposition Cotton Mills (Ga.).....	160	200
Gaffney Mfg. Co. (S. C.).....	56	56
Gainesville Cotton Mills (Ga.).....	120	120
Graniteville Mfg. Co. (S. C.).....	120	120
Greenwood Cotton Mills (S. C.).....	100	100
Grendel Mills (S. C.).....	100	100
Henrietta Mills (N. C.).....	196	196
King Mfg. Co. John P. (Ga.).....	88	90
Lancaster Cotton Mills (S. C.).....	100	110
Lancaster Cot. Mills (S. C.) Pfd.....	100	100
Langley Mfg. Co. (S. C.).....	92	98
Laurens Cotton Mills (S. C.).....	171	171
Limestone Mills (S. C.).....	85	85
Lockhart Mills (S. C.).....	95	95
Louise Mills (N. C.).....	102	102
Louise Mills (N. C.) Pfd.....	90	90
Marlboro Cotton Mills (S. C.).....	180	180
Mayo Mills (N. C.).....	95	95
Mills Mfg. Co. (S. C.) Pfd.....	100	100
Monarch Cotton Mills (S. C.).....	91	91
Monaghan Mills (S. C.).....	120	120
Newberry Cotton Mills (S. C.).....	105	105
Norris Cotton Mills (S. C.).....	100	100
Orangeburg Mfg. Co. (S. C.) Pfd.....	99	101
Orr Cotton Mills (S. C.).....	99	101
Pacolet Mfg. Co. (S. C.).....	90	101
Pacolet Mfg. Co. (S. C.) Pfd.....	100	104
Pelzer Mfg. Co. (S. C.).....	172	172
Piedmont Mfg. Co. (S. C.).....	173	181
Poe Mfg. Co. F. W. (S. C.).....	129	135
Raleigh Cotton Mills (N. C.).....	105	105
Roanoke Mills (N. C.).....	102	102
Saxon Mills (S. C.).....	100	105
Sibley Mfg. Co. (Ga.).....	60	62
Spartan Mills (S. C.).....	132	140
Tucapau Mills (S. C.).....	145	145
Union Cotton Mills (S. C.).....	135	135
Union Cotton Mills (S. C.) Pfd.....	98	98
Victor Mfg. Co. (S. C.).....	115	125
Warren Mfg. Co. (S. C.).....	90	101
Warren Mfg. Co. (S. C.) Pfd.....	105	105
Washington Mills (Va.).....	20	20
Washington Mills (Va.) Pfd.....	96	96
Whitney Mfg. Co. (S. C.).....	104	110
Wilmington Cot. Mills (N. C.) Pfd.....	100	100
Woodruff Cotton Mills (S. C.).....	97	100

## Poor's Manual for 1904.

Poor's Manual of Railroads for 1904, the thirty-seventh annual number of that valuable handbook, has been issued by the publishers, the Poor's Manual Railroad Co., 68 William street, New York. The volume gives full information about steam, electric and other railway companies, besides covering statements of industrial corporations and national, State and municipal finances. The publishers are keeping the Manual fully up with the times, and the new volume contains more information than any of its predecessors. In addition to the returns presented in the reports of railroad companies, the statements given in the Manual contain considerable information regarding the development of systems and lines. The character of the volume is well known in railroad and financial circles, and during the entire period of its publication has been esteemed for the accuracy and general reliability of its information. A synopsis of the data concerning railroads in the United States as appearing in the Manual was published in last week's issue of the Manufacturers' Record.

## Coast Line's Prosperity.

Dispatches from Richmond, Va., announce that the Atlantic Coast Line Railroad Co. has, in addition to the regular dividend of  $2\frac{1}{2}$  per cent., declared a stock dividend of 20 per cent., and also a 5 per cent. in 4 per cent. certificates of the Atlantic Coast Line of Connecticut. These dividends are payable January 1, and expectation of them was largely responsible for the recent rise in the common stock.

On December 1 the Mozart Park Association of Ohio county, West Virginia, will pay off and redeem \$40,000 of 6 per cent. coupon bonds. Alfred Caldwell is trustee, Wheeling, W. Va.

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